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Art I. — Education of the Poor.

There could not be a greater solecism in political economy than *universal suffrage*, with *limited education*, — and yet, this is the maxim adopted in practice by our own country. More than a million of free white children in the United States, are left without even a common school: another million of our youth, between 15 and 20, find no places provided for their instruction beyond the mere elements of knowledge which they may have acquired;* and a large part of these future citizens, have no means of paying for education. How are these alarming defects in the foundations of our institutions to be supplied?

The duty of providing for the wants of the poor, is imposed by the statute book of the christian, upon all who possess the means; and enforced by the conduct of his great example. It is also recognised by the civil law in most christian nations. To leave them to suffer for want of food, or raiment, or shelter, would be considered a cruelty, of which only pagans and savages are capable. But are these their only wants — or their most pressing necessities? Is it a duty to satisfy the hunger of the body, and may we still leave the mind to starve, for want of its appropriate nourishment? Are we bound to supply other necessities, and not to give them so much instruction as shall open to them those sources of knowledge, from which they may learn their present duties, and their future condition, and shall enable them to understand and govern their own passions and appetites?

* See Annals of Education, Vol. III. p. 361, and p. 404.

But in addition to all the obligations of duty, the whole community have a *direct interest* in the education of the poor. The statistics of poverty and crime, abundantly prove, that the intemperance or evil habits, which were the *first steps* in the progress of corruption, may be traced to the want of instruction, in two thirds of the number of convicted criminals.

One gentleman, examined before the British House of Commons, stated, that in seven hundred or eight hundred juvenile culprits, whose cases he had examined, he found the first causes to be the want of education and instruction. Another stated, that 'of the children he had visited in the different prisons, he had found about two thirds without education; and that as to those who had been to school, it was found they had not attended school with any regularity, nor been enabled to read.'

In the prisons of our own country also, most of the criminals are destitute of the elements of knowledge — but of five hundred and fifty convicts of the Massachusetts State Prison the greater number could only spell out the words of a book, and one hundred were ignorant of the alphabet. One half of the juvenile offenders in the House of Refuge, in New York, were unable to read.

We are by no means of the opinion, that *mere knowledge* will preserve the morals; for some of the most learned men have been among the most corrupt, and some of the most accomplished villains, have been more dangerous in consequence of their knowledge. *Education* must be combined with instruction, and the principle of religious responsibility must be inculcated, or the mere knowledge of letters will be of little avail. Scotland, which was formerly inundated with beggary, has been entirely freed from it by its parish schools; but it is also true, that these schools were imbued with the spirit of religion.

The opinion of almost every writer on political economy, even in France, is, that the education, both intellectual and religious, of the mass of the people, is essential to the welfare of a state. It is admirably observed by Sumner; 'Of all obstacles to improvement, ignorance is the most formidable, because the only sure mode of assisting the poor is to make them agents in bettering their own condition.' Colquhoun, the able investigator of the police of London, observes; 'In my opinion, there is too little exertion used in preventing the propagation and growth of crimes, and too much exertion used in punishing them when they arrive at maturity.' Another writer remarks; 'To suffer the lower orders of the people to be ill-educated, and then to punish them for crimes which have originated in bad habits, has too much the appearance of creating delinquents, for the purpose of putting them to death.'

The question for *the state* to settle is, whether it will pay a moderate sum for the instruction of its citizens, or a far greater amount in money, and suffering, and blood, for poverty and crime; whether it will dry up the sources of wretchedness and vice, or whether it will wait for the accumulating torrents to which they give rise.

The question for *every individual* is, whether he shall aim at the highest degree of security for his property and life, by educating every individual around him in such a manner that he may sustain himself, and be furnished with the knowledge necessary to guide him in the right way, and to guard him from seduction; or whether he chooses to depend upon bars and bolts, and prisons; and to pay the judge, and the sheriff, and the executioners, for taking care of his neighbors, and securing his own safety, rather than to maintain the schoolmaster, and the clergyman.

But in the United States this interest in the education of the whole community, is increased ten fold. In other countries, the individual will suffer by the vices of those who are left without education; but he is protected by the power of a government composed of educated, if not enlightened men, over which the poor have no control. Among us, on the contrary, the very persons in question, the mass of the people, are *his rulers;* they decide who shall make, and who shall execute the laws; they direct the formation, and management of the institutions, on which his liberty, and happiness, and life, and that of his family depend. We have often presented this view of the subject. We shall not cease to urge it, until we can see some evidence that it is admitted and felt. The simple question is, do the wealthy or well educated prefer to be ruled by ignorance, and the corruptions which follow in its train, rather than to pay the expense of universal education? Do they value a tithe of their income more than property and life? Will they pay large sums in order to gain some indemnity for their property when destroyed by fire, and will they give nothing, or give scantily, to insure not their houses only, but their families, from the inroads of corruption, and the ravages of crime?

But these are not the only inducements to the education of the poor. It is on the poor that the rich depend for their comfort. They rely on them as mechanics, and laborers, and domestics, to supply them with all the comforts and necessaries of life; and on their intelligence, and faithfulness, and skill, their earthly enjoyments depend more than on any other cause. The ignorant, and unfaithful mechanic will render their house, and furniture, and clothing, useless, or inconvenient. The ignorant or dishonest laborer will destroy or injure their property; and the domestic, who lacks intelligence or fidelity, may render their food poisonous, or their rooms

unhealthy; and by perpetual negligence or wickedness, may render them uncomfortable every hour in the day.

These are arguments applicable to every man in the community; and they have a force, which nothing but prejudice can resist, and nothing but ignorance and apathy can avoid. But there are others which make a still more powerful appeal to those who feel any personal interest in the rising generation, either as parents, or relatives, or friends, or merely as patriots and philanthropists. We have urged upon our readers, perhaps to weariness, that education is not confined to the school-room, or the college — nay, that it is chiefly given in the family, and in the play-ground, and the street, by the unceasing influence of surrounding objects, and events, and persons. 'Facilis descensus' is a maxim too well established to need a comment. The basest, and most ignorant individual may excite an evil passion or propensity, or implant an evil habit or principle, which the wisest and most faithful parent cannot eradicate with years of labor. How often are the errors of youth, and the vices of manhood, to be traced to the influence of an unfaithful or ignorant domestic, or a corrupt companion, or a debased inhabitant of the streets! Is it not the interest of every family, that the houses of their neighbors should be kept free from infectious disease; and is it not still more important, to preserve them from the more infectious and fatal influence of moral pollution? Shall there be liberal contributions for the vaccination of every poor child, to preserve others from a single disease; and shall there be no liberality in providing that education which is necessary to preserve him from entire corruption, and the evils which spread like a pestilence around it? With the susceptible child, everything he meets exerts an influence on his character. It is as important to him who values the character of his children, or those of his friends, that *all around them* should *be educated*, as it is to preserve the air which he breathes from pestilence, or the town in which he lives from the flames.

What friend of his country is not alarmed at the progress of crime among us? and yet how can it be otherwise, while the darkness of ignorance is spreading so rapidly over the mass of our people? Some years since, a distinguished statesman,* observed, 'that in the course of fifty years' acquaintance with men at the bar, and on the bench, in one of the New England States, he had never known an individual who could not read and write. And then, the purity of New England was proverbial.' Its people are still better taught than in any other section of our country, and it is still comparatively pure. Where is crime most common, and in what ratio does it increase? It is most prevalent where there

* Oliver Ellsworth.

are fewest schools, and the lowest state of education — in the city of New York, where there are 13,000 children who do not attend schools — in those states where the greatest number of European emigrants is found who come without education. What is the amount of this ignorance?

In the first place, agreeably to the calculations founded upon the census, in a late number of this work, we have had an accession of 1,200,000 foreign emigrants in the last ten years; and we still have 10,000 every month, most of whom come to us from the depths of ignorance, and from the scenes of the greatest corruption in civilized society. In Massachusetts, one sixth of the convicts are foreigners, and in Pennsylvania and New York about one fifth. And in a nation, where quarantines and health laws, and lazarettos, and cholera hospitals are deemed so necessary, nothing is done to disinfect this mass of corruption.

But not satisfied with imported ignorance and foreign corruption, we are cultivating it as a domestic production. In New England itself, so reckless are the guardians of our schools in regard to their organization, and discipline, and the character of teachers, that large numbers of the most respectable men in the community regard them as direct nurseries of evil, and refuse to commit their children to them, even to save the tax which they pay for them. In New York, this is not only true, but there is reason to believe that from 50,000 to 80,000 children are destitute of all instruction, besides the flood of adult foreigners which inundate this state. In New Jersey 11,000 adults were found unable to read and write, and in Pennsylvania only 150,000 children, out of 480,000, receive any instruction. If we examine the records of our prisons, we find that Connecticut has one convict in 6,662 inhabitants, and Massachusetts one in 5,558, New York one in 5,532, and Pennsylvania one in 3,968, thus exhibiting a correspondence between the state of education and crime. In Connecticut one in thirteen of the convicts is a foreigner; in Massachusetts one in six; in Pennsylvania one in five and a half; and in New York one in four and a half of all the convicts are from foreign countries. When we go west and south of these states, we find 1,400,000 white children, (in addition to the mass of colored persons who are wholly untaught, and have no motive but fear to restrain their evil passions,) who are destitute of instruction, and growing up to a great extent like the beasts of the field; trained indeed, to certain habits, but utterly untaught and incapable of self-government. The number of these ignorant children is increasing, at the rate of 200 daily. Is it wonderful that crime should increase? If our republican government is based upon the intelligence and virtue of the people, can it subsist without a great, and radical, and speedy change?

In previous articles on the population of the United States, we have only presented the various classes of our white inhabitants, according to age, as the subjects or agents in education. But there is a large and unfortunate portion of the poor inhabitants of our country, of another color, but equally in need of education, as rational and immortal beings. They are, indeed, excluded from all share in our government, and are never called to act as electors; but our security and comfort as citizens depend in no small degree upon their character. To suppose that they are not debased and brutalized by ignorance, and thus rendered more capable of crime, and less susceptible of moral influence, as well as others, would be absurd. To deny that they are capable of being improved, of being brought under the influence of conscience and religion, would be to contradict daily experience in our own country, and in the recent colony of Liberia. Knowledge, combined with religion, will make better servants if they are in servitude, better laborers if they are free, and better neighbors if they are independent.*

The following table presents a view of the whole of this class of our population, and of those under ten, the only age corresponding to that in the enumeration of the white population. The non-slave holding states, in which there is only a small remnant of slaves, are arranged together in the first division of the table, and those in which the number is still great, occupy the second division.

* The following extract, from the Charleston Observer, will show the extent and evils of ignorance, among the slaves of Georgia.

'They believe in second-sight, in charms and visions, and voices and dreams, &c. Designing men, men who wish to gain an ascendancy over them, avail themselves of their ignorance and superstition. This was the course pursued by Denmark Vesey, in Charleston, by Nat Turner in Virginia, and others within our knowledge on a smaller scale. They begin by giving out themselves to the people as great ones in the earth. Their pretensions to courage, to divine protection, to the exercise of peculiar power in consummating their own plans, or the plans of others; to invulnerability, &c, are boldly insisted on; and, of course, without any regard to truth, wherever facts are appealed to for confirmation. Then they avail themselves of the passions and prejudices of the poor people, and thus fit them for their own purposes. They proceed to predict events, or to see visions and dream dreams, or to give out *charms* of various kinds and for various purposes; some charms that buried in the path, or under the door of an enemy, will exert a fatal influence over him; some that will enable the possessor to make free use of any part of his owner's property without detection, and others which will remove sickness or the meditated revenge of enemies, or in the midst of dangers, preserve the person invulnerable. The charms are for any and all uses. They that make them know that they are as good for one use as for another. And then the *composition* of these charms is singular. A bunch of negro or animal hair, or wool, crooked sticks, glass of bottles, rusty nails, roots, &c, &c, prepared in size and quality and with various incantations, suitable to persons and circumstances. One or two *coincidences* are sufficient to establish the pretensions of one of these deliverers, or prophets, or conjurers, or preachers, or doctors; for they go by different names. And the consequence is, they are feared. Their power is dreaded, and a *threat* is sufficient to produce trembling and obedience.'

COLORED POPULATION OF THE UNITED STATES.

	Total Colored.	Slaves under 10.	Free under 10.	Total under 10.	Pr ct. of whole.
Maine,	1,207	—	306	306	25
New Hampshire,	623	—	135	135	22
Massachusetts,	7,006	—	1,618	1,618	23
Rhode Island,	3,579	2	692	692	19
Connecticut,	8,087	2	2,070	2,072	26
Vermont,	885	—	242	242	27
New York,	45,126	28	11,252	11,280	25
New Jersey,	20,553	13	5,844	5,857	28
Pennsylvania,	38,376	55	10,149	10,204	26
Ohio,	9,586	—	3,135	3,135	33
Indiana,	3,562	—	1,211	1,211	34
Illinois,	2,399	242	582	824	34
	140,989	340	37,236	38,576	26.6
Delaware,	19,134	1,088	5,151	6,239	32
Maryland,	155,932	34,882	16,221	51,103	32
Virginia,	517,105	167,207	16,238	183,445	35
North Carolina,	265,144	90,838	6,725	97,563	37
South Carolina,	265,784	103,344	2,692	106,036	39
Georgia,	220,017	76,469	715	77,184	35
Alabama,	149,121	43,233	520	43,743	37
Mississippi,	66,178	21,897	153	22,050	33
Louisiana,	126,298	27,314	5,143	32,457	25
Tennessee,	146,208	54,281	1,614	55,895	38
Kentucky,	170,130	62,475	1,397	63,872	38
Missouri,	25,660	9,483	164	9,647	38
	2,131,670	692,501	56,733	749,234	36
Territories,	33,686	8,349	3,191	10,458	
TOTAL,	2,306,245	701,190	97,160	798,268	

It appears that the whole number in the United States is 2,272,559. Of these, only 140,989 are found in the states north of the Ohio and the southern line of Pennsylvania, of whom 38,576, or about one fourth, are below ten years of age. This proportion is somewhat less than in the white population of the same states, except in Connecticut and Delaware; but corresponds to the rate of increase in the white inhabitants of the thickly settled states. The usual proportion between five and fifteen is one seventh less than the number under ten years of age in the same states, leaving 32,000 of an age proper for common schools. Of the whole number of colored persons, 32,558 are found in the cities of Boston, Providence,

New-York and Philadelphia, including the county of Philadelphia; and about 6,000 of the children we have named.

We know that there are some excellent schools for colored persons in these cities, but we fear the provision is far from being adequate. In reference to the remaining 26,000, we think there is little reason to suppose that there is good instruction given, except in some of the large towns, and a few of the more liberal country districts. In regard to the adult population, no one is ignorant that they are far from being instructed as they should be; and yet we find, here and there, only an insulated effort for their benefit.

The effects of this neglect and of the consequent ignorance of this part of our population, are striking. In Massachusetts, only one seventyfourth part of the inhabitants are colored; and yet one sixth of the whole number of the convicts are from this class! In Connecticut one thirtyfourth of the inhabitants are colored, and *one third* of the criminals. The same proportion exists in Pennsylvania. In New York, one thirtyfifth of the inhabitants are colored, and one fourth of the criminals. Thus it appears that there are from eight to twelve times as many criminals among this neglected class, as among the better instructed portions of the community.

In the remaining states of the Union, excluding the territories, we find 2,131,670 colored persons, of whom 749,234, or more than one third, are under ten years of age. Among these are only 56,733 who are free. In most of these states, the number between five and fifteen, is one fourth less than those under ten. On this ground the number of children capable of instruction, and who are not capable of laboring during the whole day, amounts to more than 561,926, or one third of the whole colored population. For this mass of human beings, whose character affects so materially the comfort and prospects of the white population of these states, there are no means of instruction, either intellectual, moral, or religious, except in a few insulated spots; and it is thought in many states indispensable, to withhold the very key of knowledge, in order to prevent more dreadful evils. The adult population are provided to a limited extent with public religious instruction; but there is still a large number of the slave holders who deem even this unsafe; and there is a sad deficiency of teachers competent and disposed for this important, but self-denying task, even were the door widely opened.

That it is no less criminal than dangerous to shut out an immortal mind from *the light* of revelation we need not establish, and we know no parallel, but in the soul-murder charged by the German judges on those who confined Caspar Hauser in his ignorance. We do not canvass the subject of educating this part of our population any farther, because in our limits we could not do it jus-

tice, and because we do not wish to be found among those who in the ardor of their zeal, seem to us to 'do evil that good may come.' We know of no adequate means, under existing circumstances, to meet the claims of the master and the slave, to reconcile the views of philanthropy, with the injunctions of law, but the establishment of Sunday Schools. We rejoice that this subject is taken up by the Sunday School Union, and we trust the North and the South will unite in one series of efforts to bring the slave under a sense of responsibility to a Master in heaven, whose eyes are in every place, and whose power can neither be resisted or escaped; and thus prepare them for the blessings of freedom at as early a period as it can safely be bestowed.

A large body of the people of the North, unite with us in sympathizing with our brethren of the South, in view of the dangers which attend the continuance of slavery, and the hazards and the difficulties which obstruct the removal of this evil; and while we thus see them in the perilous strait between Scylla and Charybdis, we can discover no adequate source of wisdom and success, but from above. But in sympathizing with others, it becomes us to look at home. What is it, that constitutes the great evil and danger of slavery to our country? It is, that a mass of human passions is under the direction of ignorance, and without the restraint of cultivation or principle. And are we not preparing a set of *white slaves* at the North, by our neglect of foreign emigrants, and native children, and by the too early and constant confinement of multitudes in our manufactories, who will be as ignorant and corrupt as those of a different color? The only difference will be, that those of the South are in bonds; these will be at liberty, and they will have the power to be our masters.

If then, we wish to see clearly to cast the beam out of our brothers' eye, let us endeavor, if we allow no more, to cast the mote out of our own. Let us remember also this vast difference between the North and the South. With them, this mass of ignorance was like some ruined barony in Europe, an entailed inheritance, which has been already somewhat improved; but *we* received from our fathers, the rich inheritance of a well-educated people, and an excellent system of institutions, which are declining, and going to decay, by the criminal negligence of their descendants.

But the appeal may be made to our *hopes as a nation*, as well as to our fears, on behalf of the education of the poor. The most valuable part of a nation's capital, consists in the intellectual power of its citizens; and no portion of it ought to be husbanded or nursed with so much care. It is this which gives the great value to mere material productions, and to the very soil. How much of the value of cotton is due to the genius of Whitney; and our

very rivers owe half their present usefulness, as the highways of the nation, to the invention of Fulton. How much of our country's happiness and safety do we not owe, to those children of poverty — Franklin and Sherman! What folly then to neglect that class of society which produces such men, and this not less frequently than the ranks of wealth and greatness! It will not be enough to search for and *select* such subjects; for those reflective faculties which give the greatest men their distinction are not developed in early life; and yet, they are always imperfect in their operation, if they are not early supplied with materials for thought.

But if we leave such men out of view, the increase of intellectual power in the mass of those who are to contribute to the wealth and influence of a nation is not less important. Nay, it is indispensable, in order to give to the most powerful minds, the proper sphere of action, the materials on which their force may be exerted, the instruments by which their plans may be executed.

To the persuasions of fear and hope, we must add the demands of *duty*. If there is any correspondence between duties and rights — any reciprocity in obligations — *a Republican Government is bound to provide for the education of every citizen.* How else can he be prepared to understand its laws, and perform the high duties they impose? To attempt to illustrate so obvious a truth, would only help us to forget the intuitive evidence on which it rests.

In whatever light, then, we view the subject, *the Education of the Poor*, is a high and holy duty. Justice demands it; self-interest urges it upon the whole community, and upon every individual; and crime, and misrule, and national ruin, are the penalties, which Providence has affixed to its neglect.

Art II. — On the Ends to be Aimed at in a Course of Education.

By William R. Weeks.

[It is sometimes necessary to revert to first principles—to the very elements of one subject. The following essay developes these principles in the most simple manner, and presents truths which are so familiar as to be almost forgotten. The neglect of them is the source of half the errors of our schools.]

The great object of education is a preparation for usefulness. To acquire the greatest ability to do good, attention must be paid to moral, intellectual and physical culture. We must *be* good ourselves, if we would *do* much good to others. We must acquire knowledge, and know how to use it for practical purposes. And in order to preserve the mind in a healthful and vigorous state, the health and vigor of the animal system must be preserved also. It

is not my intention to discuss all these points in order; it would occupy too much time. I purpose only to remark upon some of the principal ends which ought to be aimed at, in a course of intellectual education. Whether that course shall be more or less extended; or whether it shall be pursued in common schools, or in seminaries of a higher order. I conclude it will be admitted that the following ends should be aimed at, in every case:

1. That we should learn to *think*. This is so obvious that it seems scarcely necessary to mention it; and yet, it is so much neglected, that it seems in many cases, to have escaped the attention of both teachers and learners. How else is it to be accounted for, that teachers have so generally been satisfied, when their pupils have recited according to the *book*, and have so seldom asked for the *reasons?* And how else is it to be accounted for, that so many pupils, who have passed for bright scholars, and can repeat fluently all that their authors say, are struck so dumb, and look so blank, when you ask them to tell 'the *why?*' To be able to take up a subject presented for our consideration, and, by independent investigation, to arrive at a correct result, without reference to books or rules, is certainly a very desirable attainment. And if it cannot be reached in relation to all subjects, it can be in relation to some. And a man is but poorly qualified for the business in which he engages, who is not able to do it, in all the cases of common occurrence, in that particular employment. It is of great importance, also, that we learn to think with *accuracy*. For, of what avail is it, if we go through an investigation, and arrive at a conclusion, if that conclusion proves erroneous? All action, founded upon such a conclusion, must be erroneous also; and either be of no avail, or positively injurious. *Quickness* of thought is also of great importance. For, successful action often depends upon the present moment. If the operations of our minds are slow, the favorable moment will often be past; and our correct conclusions will come, only to fill us with unavailing regret, when they are too late to be of any use. Which of us cannot recollect very many occasions, when a greater quickness of thought might have secured good which is lost, or prevented evil which has come, because our minds were too tardy in their operations? We need also to learn to think *closely*, and with fixed and continued attention. No considerable amount of valuable knowledge can be acquired without this. The mind that is capable of but a momentary attention to a subject, and is easily diverted by every trifle, must be incapable of going through with any labored investigation, and be liable to perpetual mistakes in the conclusions it forms.

2. It is not only necessary to learn to think, but to learn to obtain *materials* for thought. Those materials, indeed, lie around us in great abundance. The ground we tread on, the air we breathe

the heaven above us; every herb, and every stone, and every tree; every fowl that flies in the air, every fish that swims in the waters, every beast that roams the forest, and every creeping thing, that creeps upon the earth, is rich in materials for thought. Man, with a body fearfully and wonderfully made, and a mind capable of elevated attainments and noble actions; all nature, indeed, is full of these materials. But these things lie unnoticed and neglected by those who have not learned to think. To a child, indeed, they are objects of interest, and awaken inquiry. But where there is none to direct his investigations, and to satisfy his curiosity, and he is put off with an answer which forbids inquiry; where he is told that his questions are foolish, or that what he asks cannot be known, his mind sinks down into a stupid inanity, or employs itself with empty trifles, or in seeking animal gratifications which stupify it still more. Till, at length, those objects around him, which are so wonderful in themselves, so interesting in their relations, and so well adapted to furnish pleasant and profitable employment to an intelligent mind, come to be regarded with total indifference; and seem to attract as little attention from him, as they do from the ox he drives, or the horse he rides. Now, one end which should be kept in view, in every course of education, is, to awaken attention, and direct it to its proper objects; to lead the pupil to take notice of what he sees, and search after the reason *why;* to collect facts, and put them together, and trace their consequences. He should be taught to observe everything around him, and everything within him; and be encouraged to hope, that, if he should not be able to know all he might desire to know, in relation to everything he sees, he may hope to be able so far to explore the field of science, as to furnish himself with abundance of delightful employment, and acquire treasures of useful knowledge far surpassing in value the wealth of the Indies.

3. It is necessary to learn to *communicate* our thoughts to each other by speaking, writing, and reading. To know the meaning of words, their orthography and true pronunciation, and their arrangement in sentences, so as to express our ideas with clearness, strength and harmony, and have a clear perception of the meaning of others, so as to be able to read their composition with propriety, are very desirable attainments. And though some knowledge of reading, speaking and composing, is very common, yet a good knowledge of them is rare. Of what use will it be to others that we have learned to think, if we know not how to communicate our thoughts? And how can we communicate them to others, unless we know what language will be intelligible to them? A chaste and manly style is that which suits a train of solid and useful thought. High sounding expressions and tawdry ornaments are better suited to disguise the want of thought, and to amuse those

who are delighted with nothing but *noise*. But if we have anything to communicate adapted to do good to ourselves or others, we shall wish to make our sentiments accurately understood and deeply felt, by those we address. Learning to think, is indeed the first step towards learning to compose. For if we have solid and useful thoughts, there will be little difficulty in giving them utterance. Yet it is obvious that there is a vast difference in the mode of communicating the same ideas. And a tolerable acquaintanc with the principles of grammar, and the rules of composition and criticism, will give its possessor great advantage, in this respect, over one who is ignorant of them.

4. It is important to acquire habits of *patient* and *persevering application*. Few things, of any importance, are accomplished by a single effort, however great or well directed. But small powers continually exerted, for a length of time, have accomplished wonders. What impression can a single drop of water make upon stone? Yet a continual dropping, will, in time, wear away the hardest marble. What is called *genius*, may, indeed, like the electric fluid, dazzle by its sudden coruscations. But, as the steady light of the smallest taper is better for all useful purposes than the fitful glare of the lightning, so the steady application and untiring assiduity of small talents will accomplish more, in the end, for the benefit of the world, than all that was ever accomplished by the occasional efforts of the greatest geniuses. Besides, if genius were sufficient, without application, the great mass of mankind are not geniuses. And it is the great mass who are to be benefited by systems of education. How often does the impatient pupil say he cannot do it, when but a small effort is requisite? And how deep an injury he sustains, if he is suffered, on the one hand, to abandon his work in despair; or if, on the other, his teacher performs it for him? Let him *try*; and if he fails once, let him *try again*. Give him help enough to prevent total discouragement, but not so much as to supersede the exercise of his own powers. Would you teach your child to swim, you must throw him into water beyond his depth. But you must not leave him to sink, nor yet carry him along the surface with your own hand. You must give him just enough assistance to keep his head above water, and let his own efforts perform the rest. Habits of patient and persevering application are necessary to success in any kind of useful employment, as well as in the acquisition of knowledge; and one great end to be aimed at, should ever be, to form these habits, and to train the pupil so that he shall never be discouraged while a useful object is in view, and a single effort can be made.

We have, then, these ends to be aimed at, in every course of education, *to learn to think;—to learn to find materials for thought;*

to learn to express our thoughts; — and to acquire habits of patient and persevering application. These points being settled, they afford us some conclusions of great practical importance.

By reference to these principles, we can judge of the comparative merit of different systems of education. That is the best system which is best adapted to secure these ends. Children must be taught to think. And how is this end to be attained? Not by repeating, parrot like, the words of their *books*, without ever inquiring what they mean. Not by reciting from memory rules which they do not understand, and being praised for the accuracy of their recollection, while they know not how to apply in practice a single principle. Not by loading the mind with a confused mass of facts, like articles of lumber piled up in a ware room, without any order. Not by leading the pupil through a set of mechanical operations, which deceive him with correct results; but in obtaining which, reason has had as little to do, as it has in the movements of a steam-engine, or the operations of a power loom. They must be taught to reason on every subject, and never to be satisfied till they know *why* any assertion is made, or any conclusion adopted. They must begin with principles which are perfectly intelligible, and never advance a single step, till they see firm ground to set their feet on. Why are there so few good readers? Because children are taught to pronounce words, without any knowledge of their meaning. If they were taught to inquire the meaning of every word, and were required to read just as they would express themselves in animated conversation, we should not hear them read with so much monotony, with such measured cadence, with such a drawling, lifeless sing-song. I have never yet seen a suitable book for young beginners; one that united sufficient interest in the matter, with sufficient plainness and simplicity of style. Some friend of little children ought to make such a one. Why is it that so large a portion of our young people, who leave school at the age of sixteen or eighteen, are so poorly qualified to keep accounts, or perform the most common arithmetical calculations? There must be an error in the mode of their instruction. They are suffered to '*cypher through the book*,' as they term it, and to think they know it all, when, perhaps, they have seldom been asked the reason for a single operation. What wonder is it then, if, when a real business transaction is presented, they know not where to begin, or what to do? There must be a reform in these things. Children must be taught to understand what they study. They must learn to *think*. I would not make them so exclusively intellectual, as to be like the mathematician, who on reading the immortal work of Milton, asked, 'what does all this *prove*?' as if there could be nothing to admire, because it was not mathemetical demonstration. But I would

not have them imbibe the notion that there can be any such thing as correct taste without thought, or a capacity to relish the beauties of such a writer, without drinking largely at the fountains of useful knowledge.

The same principles will assist us in forming a judgment of the qualifications which are necessary for a teacher. He must have learned to think. If he has not learned to think himself, how can he teach others to think? It is not sufficient that he has a mechanical acquaintance with the books he is expected to teach. He must understand them. And he must understand the subjects of which they treat. It is not sufficient that he knows the rules of arithmetic by rote, and can perform the operations which they direct; he should be able to explain *why* such directions are given, and to lead his pupils to discover, from the nature of the question proposed, what ought to be done to solve it. It is not sufficient that he can make himself intelligible to those who already understand the subject, but that he should know how to accommodate himself to the capacity of those who know nothing of it. Some teachers seem to have forgotten the steps by which their own knowledge was acquired, and to be incapable of helping young learners over the same difficulties, to surmount which they once needed help from others. The ability to teach a child how to think, is a rare attainment: and requires much knowledge of the human mind, and much practical acquaintance with the gradual development of the infantile faculties. It requires a patience which nothing can wear out, an evenness and mildness of temper which nothing can disturb, and a desire to do good which no discouragements can repress. Perfection cannot, indeed, be expected; but these qualifications must exist, in some good degree, in every individual who is fit to be a teacher.

We may also perceive the importance of proceeding with a due degree of *slowness*, in every branch of study. Sufficient time should be taken to learn accurately what is attempted to be learned at all. Pupils are usually impatient to get forward; and many parents are equally impatient to have them. And the success of the teacher is too often estimated by the rapidity with which he advances his pupils. But it is not the extent of the surface which is skimmed over, that makes a scholar. He must learn to think, — to think closely, and accurately; and acquire the habit of thorough investigation. But the importance of this is too little regarded. It is thought that the pupil *must* advance rapidly, or he is learning nothing. In his hurry to get forward, he cannot stop to think. And when he makes mistakes, he cannot stop to correct them. And thus habits of inaccuracy are contracted, which often cleave to him through life, to his incalculable injury. The public mind needs to be in-

formed on this point. Parents need to be reminded that habits of accuracy are of far more importance than rapid progress. And indeed, that *real* progress towards the great end of education, cannot be made any farther than such habits are acquired. Particular encouragement should be given to those teachers who will make their pupils go slow, rather than to those who will make them advance rapidly. And the combined influence of parents and teachers, aided by public sentiment, should be effectually exerted to convince learners of the necessity of taking time to be exactly right in everything; that even little things cannot be safely neglected, because the great sum of life is made up of little things; and that the habitual neglect of these will infallibly lead to the neglect of the greatest things; and that unless they can be made to feel the importance of entire accuracy, the great ends of education will fail of being attained.

If the views here expressed are correct, it is evident where the work of reformation needs to begin. We complain that our youth are growing up vain, and thoughtless, and superficial, fond of dissipation, bold and forward, and self sufficient, and impatient of parental restraint. We complain that they have no taste for what is useful, but a strong passion for show; that home is irksome to them, and the most necessary employments of life disgusting; that the tendency of the best education we can give them is to make them feel above the most useful occupations. But we should cease our complaints. It is *we* that have done it. We have trained them for this, and can expect nothing else. The error has begun in their infancy. Instead of allowing them to fix their attention upon any object that has seemed to attract it, long enough to obtain one clear idea, we have thought they must be hurried from object to object for perpetual diversion. When they have begun to inquire into the nature of surrounding objects, and to ask the reason of things, we have put them off with a foolish answer, laughed at them for their simple questions, or repressed the spirit of inquiry with a frown. When they were sent to school, we have compelled them to pore over what they did not understand, till they hated the sight of a book; or, to encourage them to proceed, we have flattered their vanity, and taught them to labor for praise. We have sought to make everything easy, by abridgments and compends without number, till they are deceived into the belief that they are acquainted with the whole circle of the sciences, when in truth they have learned but little more than a few technical terms. We have taught them to consider of primary importance those things which are merely adapted for show; and left them to infer that the great end of life is to be flattered and admired. What wonder is it, then, if the consequences of which we complain, are everywhere to be found?

How can home be agreeable to those who have not learned to think, and who can find no materials for thought? How can the quiet duties of life possess attractions for those who have been taught that nothing is so desirable as display? If we wish a reform, we must begin at the foundation. We must make a radical change in the system. We must teach our children to think. We must train them to habits of investigation. We must teach them to find materials for thought. We must open before them the exhaustless stores of knowledge, and teach them to value its treasures. A passion for knowledge will exclude the passion for dissipation. And its gratification will be cheaper, as well as its consequences happier. When they shall have learned enough to discover how little they know, they will begin to be modest and diffident. When they shall have learned to value every acquirement according to its utility, they will despise that which is merely adapted to display; and they will recover their respect for the useful occupations of life. And when our children and youth shall have learned that the mind is the noblest part of the man, and that the pleasures derived from the acquisition of knowledge are sweeter than those which are found in the gratifications of the animal nature, there will be a change in their pursuits, most happy in its character, and happy in its effects.

The remarks which have been made will also enable us to see the use of Lyceums. They are intended and adapted to promote the desirable change which has been mentioned. It is their object to teach their members to think, to furnish materials for thought, and to aid in the communication of our thoughts. They are designed to collect together the lovers of useful knowledge, and afford them advantages for mutual improvement. The older pupils in the schools, the youth who have ceased to attend school, those who are engaged in teaching, and those in active life, may here meet together, and combine their efforts for the promotion of a common object. And that object is one, as all must perceive, of the greatest importance. Our aim is not merely to improve ourselves, though that should be sufficient to stimulate us to unwearied effort. Benevolence takes a wider range, and aims at loftier objects. As far as our influence may extend, we aim at the general improvement of education. We desire to rouse the public attention. We wish to inform and direct the public sentiment. We wish the great ends of education to be better understood, and their importance to be more deeply felt. We wish to see old and young, parents and children, teachers and pupils, all engaged to elevate the standard of instruction and more extensively to diffuse its blessings. We wish to see all the citizens of our great republic well instructed in their rights and their duties, and well prepared to enjoy their rights, and discharge their

duties. We wish to see them too wise to be deceived by designing and crafty men, and too virtuous to give their support to the unworthy under any circumstances. Then may we hope that our liberties will be preserved, and our inestimable institutions be handed down as a rich inheritance to succeeding generations.

Art. III. — On the General Principles of Instruction.

By George P. Macculloch, of New Jersey.

Read before the American Lyceum, at New York, May, 1833.

[Those of our readers who are familiar with our pages will recollect at once that we have expressed opinions highly favorable to some of the practical methods described in the following essay, while we have strongly opposed some of its principles. We have often expressed our willingness to open our pages to any views of our subject, founded upon experience and maintained by argument, when they do not involve sectarian views of religion, and are not opposed to morality. We wish this essay may call forth some of the advocates of minute instruction. Some remarks on the subject will be found in future articles, prepared for another purpose.]

The territory of Knowledge is an immeasurable region, traversed by endless paths. To pursue one or two of these, as far as it has hitherto been trodden, perhaps to advance a few steps beyond the last traveller, and leave some traces for the guidance of our successors, — such seems the utmost limits attainable by the brevity of life, and the feebleness of human intellect. Inadequate as are our means for a full and general survey, we act as if possessed of surplus power; and much ingenuity seems to have been misapplied in creating artificial difficulties in every avenue, or in compelling the traveller to retard his pace, by carrying some fantastic encumbrance. Whether any of these hindrances can be removed is an inquiry congenial to your own patriotic society, and promoting each of its benevolent purposes. A plain, matter-of-fact essay, requires then no apology; premising only that my views result from a *personal experience* of many years, spent in instructing youth. I shall advance no theory, upon which I have not acted with success; nor offer any advice, which I have not ascertained to be beneficial.

In America, the design of education is radically different from that which prevails in Europe. With us, it is to cultivate some millions of minds; to confer the grace of letters upon the rugged brow of industry; to produce a bustling but intelligent race, fitted rather to fell the forest than to pipe pastorals under its shade. A few gifted souls, indeed, may soar above this intellectual level; but

souls such as these, rise in every country and condition; nor should a system of education be predicated upon the solitary exceptions to a general rule. Let us take care of the multitude; the happy few will take care of themselves. In Europe the very reverse of all this occurs. There, the stream of knowledge is obstructed, and those only can slake their thirst who can afford to spend a fortune or dedicate a life to its pursuit. There, a man loiters at a University, while here, at the same age, he would be a husband, a father, the head of a family, battling for independence, station, professional eminence or public distinction. The European system, it is true, affords the best chance of discovering, once in a century, some prodigy in Metaphysics or Criticism; for which chance of discovery, all who are educated are drilled, as methodically, and minutely, as if the succeeding generation were destined to be Pedagogues. Under such training, a few splendid lights must break forth; boys of middling talent may escape; but the weak are crushed under a farrago of what they neither understand nor desire to understand, and by due perseverance become stupified. A Metaphysician and Critic, or even a Mathematician and Astronomer, thus cost a price which we, of the New World, cannot afford to pay. We court no prodigy beyond that of an entire nation, some twelve or twenty millions of minds, all advancing, nearly abreast, in the career of liberal, practical and useful learning. We have no time to waste, as in Europe, in marching and countermarching upon the outskirts of what we desire to learn; we must come, without circumlocution, to the point, and gain a victory while they are buckling on a cumbrous armor.

It has been well said that no man can educate another. The utmost that any teacher ought to attempt, is to sketch an outline, which the future assiduity and genius of his pupil can alone fill with the lights, and shades, and glowing colors of knowledge. Whatever we acquire permanently and usefully, is self-taught. The schoolmaster is then a mere sketcher of outlines. In America, he is allowed only five or six years for that task. The child is often translated to some money-getting employment by the time he is seventeen. Now the question I would propound is; should this precious interval be wasted in touching, and retouching, and finishing minute and insignificant parts, or in giving a faint, but general and grand idea of the whole panorama of knowledge? Let the attention of the boy be pointed solely towards leading principles and interesting facts. By the former he will learn where to locate whatever he shall subsequently acquire; by the latter he will gain a relish for solid attainments. Whenever future circumstances may render it necessary, or leisure and developed tastes shall make agreeable, he thus possesses within himself, the prepared faculty

of prosecuting vigorous research into any given province of science or literature.

'But you recommend us to teach superficially. Scholars must be well grounded; there should be a good foundation; whatever is taught, ought to be taught thoroughly.' These are conventional phrases, which are frequently adopted, but to which it would be difficult to affix any precise meaning. They sound well, however, and why should not academic cant be as sonorous as any other species? Let us scrutinize the matter for ourselves.

If all that mankind learn, up to the age of seventeen, can be simplified and abbreviated one third, the progress of youth will of course be carried one third further; and this may very easily be accomplished, by lopping off useless technicalities, tedious work of memory, and a vain parade of elements, which clog our scholastic operations.

Can this be effected? It can, and easily, for I myself have done it; and in explaining how, we shall commence *ab ovo*, by teaching a child to read English.

The A B C is our initiative tormentor, requiring much time and herculean effort, altogether thrown away. Some years ago I perused, with much curiosity and little faith, a French book upon the art of teaching to read without the alphabet. The Symbolical Primer, published in America, seeming well adapted to the method recommended, an experiment was made in my family upon a child of three years and two months old. At the average rate of one lesson a day, it became capable, within ten months, of reading intelligibly and fluently, any newspaper. I mean not to insinuate that the child could have imbibed the meaning of the President's proclamation, but merely that it could have conveyed to its audience the whole of that document. The same result could not have been obtained from the same child, by the usual routine, without several months of additional labor. Here then, upon the threshold of education, there is room for great economy of time and effort.

After reading, the next step of a legitimate course is directed to English Grammar, a subject which shall be touched with much deference; for although a pupil of the Edinburgh High School and College, I must in candor avow that I have never perused, or even perceived the utility of perusing a full grown grammar.

There are a few primary rules, fundamental in all languages, and therefore derived from nature itself. Syntax only presents amplifications or exceptions to these maxims, which pervade all oral communication. These primary rules should be applied first to our vernacular speech: a boy understands their import best when not loaded by the embarrassment of foreign words; and this simple

outline of universal grammar forms the sum total of all that need be taught of English Grammar. If after the perusal of classic authors, and conversation, such as it is uniformly found, in *tolerably* well informed society, the pupil is still prone to gross grammatical error, he is most certainly a subject upon whom classical and literary refinement would be thrown away. Minute errors may indeed be detected, but who rejects figs, because he has viewed their farina in a solar microscope? True it is, the science of language involves many curious discussions and debatable positions, invaluable to an acute philologist. Let Amateurs chase their butterfly through an hundred folio tomes; we have no right to smile, for De Gustibus, &c. But the business of national education is not to foster verbal criticism, but to create men of capabilities for actual business, blended with a taste for literature or science, to be extended and cultivated as circumstances may permit.

A premature exhibition of Etymology, Syntax and Prosody, in all their terrific details, is an unfailing prescription for making a boy nauseate his school, his master, and his book; and when these leaden accomplishments are acquired, they conduct not to a single useful end. No nation has struggled as much as the French to regulate its language. Regal prerogative has even been extended over preposition and adverb; and the Royal Academy enacted a code for better regulating the chit-chat of that colloquial people. All the classic authors stand accordingly convicted of high treason against the *Norma scribendi;* it has been satisfactorily demonstrated that we can neither laugh with Moliere, nor weep over Racine, without becoming *Participes Criminis*, subject to the penalties of contempt of lawful authority. Boys should be guarded against this mechanical estimate of Literature.

The only use of grammar is to dissect language into its elementary parts; to ascertain the reciprocal bearing of these parts upon each other; and by their combination under a few plain precepts, to elicit or convey sentiment with precision. Construing this definition in its utmost simplicity, I have taught grammar, almost solely by familiar examples, always appealing to the judgment, never to the memory; and expending not more than fifteen or twenty lessons of a quarter of an hour each. Nor have I reason to regret this summary process. One of the most prominent public speakers; and another, one of the finest periodical writers of your state, have both learned all they know of English Grammar, while sitting on my knee in the garden.

Initiated in a slender stock of general rules, the boy proceeds to foreign languages. The usual routine is to commence by Latin; my method has been to prefer French. Latin pronunciation is entirely conventional; every nation modelling upon its own alpha-

bet; while in French the standard is fixed; conformity is indispensable; and not to be acquired by rigid organs. If acquired at all, it must be in early youth. A knowledge of Latin assists the French student no more, than a knowledge of French assists the Latin tyro; and where both are to be taught, the customary precedence ought to be inverted in favor of the modern.

The scholar having already imbibed some faint notion of Etymology and Syntax, applies them to his new study; he learns his articles, verbs, &c; reads, and especially writes, copious exercises; guided only by a very few rules on the leading and diomatic peculiarities. *In no language should these rules occupy a slip of paper of more than six or eight inches in depth.*

To imbibe the genius of any language is the work of time; and a perusal of its best authors, is the only means.

Following this method, he must be a dull boy, who cannot, within six months, and without a neglect of other pursuits, acquire any of the modern dialects, adding perhaps two extra months for the German.

To the objection that this method is entirely superficial, I shall only answer that a boy of fourteen, after thus learning French, was sent to finish his education in Paris. His guardian informed me, that within two months of his arrival, and in an Academy of two hundred scholars, he carried off the first prize for an essay in that language.

Latin, subjected to the same regimen, may be acquired with nearly the same facility, diminishing the length of the written exercise, and increasing the reading. All time spent upon Prosody, with the exception perhaps of scanning a few Hexameters, is a total loss. It can have for its object only the manufacture of poetry, or to establish a correct syllabic measurement. The first of these has justly been hooted out of existence; the last can be attained instinctively, wherever Latin is read with propriety. If gifted with a tolerably correct ear, no boy uses false quantities, who has been habituated to hear just recitation. If he be not so gifted, drill him as you will, the graces of versification are inexpressible to his voice. But how, it may be demanded, is propriety in the enunciation of syllables to be maintained? How are future generations to quote Horace in all his harmony of longs and shorts, if we suffer the important rules of prosody to lie forgotten? Let our colleges be the temples, and our professors the priesthood for feeding this vestal flame; but let not our youth be tormented, and their time wasted, upon acquirements which a few years must obliterate; which are utterly inapplicable, either for use or for ornament, to their destined pursuits; and which concern only those who eat their bread by the '*Literæ Humaniores.*' It is much to

be doubted, whether Roman gentlemen were in the habit of scanning Horace, more than we measure feet in the Odes of Gray.

In the whole business of education, we are apt to look more at forms and precedents than at the practical result to be attained by our pupil. This error pervades not only our operations in language, but the concomitant fields of Geography, Arithmetic, Algebra, Geometry, &c. Geography, for example, is frequently clogged with an encumbrance of History, Politics, and Statistics; affairs quite alien to the subject in hand, in which the juvenile student can feel no interest until maturer years; and which, at a proper time, he will follow up with relish and profit. Our Mathematical instructions, in like manner, assume a form too speculative; the youth is confused in a labyrinth of elements, and throws down his Euclid in disgust, because he perceives no tangible application amidst the chaos of lines and angles. Let the boy watch a mason with his ten foot pole, staking out the corners of a house, and be shown that this proceeding is derived from the 47th proposition of Euclid. He will open the book with curiosity and ardor, and like Bonaparte at the *Pons Lodi*, pass at one single energetic effort the redoubtable *Pons Asinorum*.

A volume of such illustrations might be compiled, all showing how our whole academic system is overwhelmed by trifling minutiæ, which impede progress and melt from the memory, leaving only the bitter regret of time and effort expended in vain. A brief outline of elements, impressed upon the judgment by judicious examples, will be rapidly and indelibly acquired; if the master will only employ, in illustration, one tenth part of the labor which the scholar wastes in listless repetitions of lessons learned by rote. But it is much easier to compel an urchin to sit still and con his task, than to clear his path and lead him onward.

I shall refrain from farther elucidation of the doctrine which it is my intention to inculcate; for as Montesquieu remarks, it is better to induce men to think, than compel them to read.

The improvement of Education stands first among the objects of your philanthropic Institution; and I could not better respond to the honored call made upon me, than by selecting for this essay a topic to which I have devoted many years of undivided attention. The views were, at the time, novel; they may subsequently have been adopted and improved by my successors. Such as they are, I offer them as a tribute of respect to the Lyceum, and a sort of posthumous bequest from a retired schoolmaster to the succeeding generation of public instructors.

Art. IV. — Method of Jacotot.

By George W. Greene.

[We have, in a former volume, given the outlines of the system of instruction, devised by Jacotot, in the hope that some one of similar spirit, would be led to employ and test it in this country. We have heard of but one experiment, that of Mr Guillou in Philadelphia; and as we have not unfortunately received the books sent to us by that gentleman, we are unable to give any particulars, or to describe the works he has prepared. We are happy to find that Mr Greene, who recently lectured on the subject before the American Institute, has opened a school on this plan, in Providence, and is preparing an introductory work in reference to it. We have been gratified to receive from him the following account of its origin, we hope introductory to some further details of his own observations and experience in reference to it. That it is not one of those royal roads to learn by 'a short and easy method' which are now so popular, will soon be discovered.]

Every appeal that is made to public attention in favor of a new system of instruction, should be supported by argument and facts. We must seek the first in a minute examination of its principles; the last, in the actual results of its application. A simple exposition of principles will not give the conviction of its practical utility, neither can we judge of its adaptation to our own wants by a knowledge of results, however exact and detailed; for, without experiment, we are in danger of adopting principles that cannot be reduced to practice; and without a knowledge of principles, we cannot embrace the full extent of our discoveries.

These two descriptions of proof have been brought to support the method of Jacotot, and its advocates appeal with equal confidence to the examination of its principles, and to the observation of the results that have followed their application.

The method of Jacotot owes its origin to one of those single trains of circumstances which have so often led, step by step, from a simple experiment to the most important discoveries. Its founder, J. Jacotot, is a native of Dijon, in France. A large portion of his life has been devoted to literary pursuits, and he has filled with distinction different chairs in the colleges of France. But the political changes that have driven so many Frenchmen from their homes, compelled him, after the restoration, to seek in exile an asylum from the espionage of the police. He retired to Belgium, and in 1818 was called to the chair of French lecturer in the University of Louvain. But here a new difficulty awaited him. His instruction indeed was confined to his own language, but many of his scholars spoke no French; and he was equally ignorant of their language, the Flemish. There were a few, however, among them who had some knowledge of French, and with these for interpreters, Jacotot entered boldly upon his labors. He first directed them to learn,

by heart, a part of the first book of Telemachus. An old Dutch translation served as a guide to the same, and a species of examination was carried on partly by questions, addressed through the medium of his interpreters, and partly by making his pupils point out those parts of the translation which corresponded to certain parts of the text.

In this manner, the first six pages were soon learned. The remainder of the book, and the six following were then read and narrated. A more direct channel of communication was opened by degrees, between Jacotot and his scholars. They extended their knowledge of words from day to day, and each new lesson was also an advance towards correctness. In a short time they became so familiar with the language of Telemachus that they would narrate in it all the events and details of the book. 'Why can they not,' said Jacotot, 'apply the same language to the expression of their own ideas?' He told them to write; and they composed upon the various subjects of the book, and corrected their pieces by comparing their own usage of the language, with that of Fenelon, acquiring thus, the beauties of style, while they collected phrases and studied grammatical construction.

Encouraged by this success, Jacotot soon applied the same method to the study of Latin; and succeeding also in this, he directed his attention to drawing, music, and the mathematics. He had, until then, believed that explanatory instruction was essential to the scholar in every department of study, and he had long supported that belief by his private instruction, and his public lectures. But he had now, without a single explanation, conducted his scholars with a more rapid step than ever before, to a thorough knowledge in various branches. Individuals had often accomplished this; but in public instruction, it was a discovery, and he announced it as such to the world. Better perhaps would it have been for his individual repose, had he confined his system within the limits of his own lecture room; for mingled with the expressions of admiration and assurances of gratitude, came a torrent of calumny and of reproach. He was accused of quackery and imposition; the schools established under his direction were withdrawn, and he was visited with the sole object of searching out his errors, and exposing them to the public. Results that could not be denied were said to be unfairly procured; and when by chance, the indolence of a scholar defeated his views, the failure was attributed to the instructor and the system. It excited no little animosity among modern inventors of 'easy' and superficial and short methods, because it required close study, thorough investigation, and attention to minute details; and thus stood opposed to all their schemes.

To these clamors he opposed no other answer than the results of his experiment. From the moment of the discovery he had ceased to give lessons as a private instructor, and he assiduously labored to perfect and to extend his system without the view of any reward beyond the consciousness of doing good. Public attention, already excited, soon became riveted with intense interest upon the progress of the experiment. Classes were formed among the troops of the Dutch king;* some from the common soldiers, who were instructed in the rudiments of their native language, and some from the officers who engaged in the higher branches of mathematics. Parents† sent their private tutors to Louvain that they might learn from Jacotot how to conduct the education of their children by the principles of his method; and committees were appointed by various societies, interested in the progress of education, to inquire into the principles of the method, and investigate its results. Their reports were in turn laid before the public, and brought their concurring testimony to the importance of the discovery.

The success of the method, however, was still ascribed by some‡ to the individual superiority of Jacotot. His long experience as a teacher, his conciliating and animating manners, his skill in forming questions that should suggest their own answers; but above all, the warm interest in the success of his system, spread like the electric shock from himself to those around him. All these circumstances were said to have a large share in procuring the results which he persevered in attributing to the method alone. This question, which argument could never have decided, was soon satisfactorily determined by a full experiment.

A school was opened at Antwerp by M. de S——; Jacotot's success in *language* had been most admired; but de S —— obtained equal results in the most abstruse departments of mathematics. Other schools were rapidly formed in other parts of the country; one was established in Paris by the Society of Methods; and its venerable president, de Lasteyrie, published an account of the system. At the same time the public press poured forth a flood of reports and letters,§ and descriptions from the pens of private individuals, and by the authority of government and of public societies.

It could not be expected that all these should agree. Few men arrive at the same conclusions upon any subject, but they always differ when interest or prejudice colors the medium of their observations. We find, therefore, in some of these reports the warmest expression of approbation applied to certain parts of the method, while others are as freely condemned. Some applauded it

* See a correspondence between M. Jacotot and Prince Frederic, &c. &c. in 1827.
† Casimir Perier. ‡ See Kinker's report, 11, 12 pages. § Report of Boutony and Bandouir. — Letters of the Duc de Lève, &c. &c.

as a method for the study of language, while others were astonished at the rapidity with which it leads to a knowledge of science. But while the dispute was thus increasing in warmth, and daily engaging new combatants in the field, the method itself went on rapidly, extending, and procuring for the unprejudiced of both sides, the means of a rational decision. In 1829, there was but one school in Paris that followed the system of Jacotot; in 1831, there were more than ten. Several were opened in the provincial towns of France; and what was still dearer to the benevolent heart of 'the founder,' the father, and the poor peasant, eagerly adopted a system, which made each the instructor of his children.

Toward the close of the autumn of 1829, the writer of this article became a member of the school of M. de S——. It was my principal object to ascertain the truth of the statements that I had heard, and see how far the practice of the method agreed with its theory. Without apprising M. de S—— of the view which had led me to his institution, I applied myself, particularly, to observe the progress and mode of study of my fellow scholars.

The first branch of study that attracted my attention was the drawing class. A room on the first floor had been set apart for drawing and music. In a niche on one side of this, stood a bust of the Apollo, around which the scholars were arranged in a semicircle. Each represented, upon his paper, the view that his position gave him, and thus beginners as well as proficients were obliged to commence with a front, or half, or side view, according to the position that each had taken.

Some of this class had been studying for several weeks; and their drawings no longer exhibited the irregularities of a first attempt. One of them had completed a fine head of the Apollo, and was drawing another, from a description in his Telemachus. He had, in the course of his study, composed a description of Apollo from the bust: he had now to reverse the exercise, and from the written description, compose a head. Every part of the work was justified as he proceeded; and he was required to account for the style of the features, the expression, the shade, the arrangement of the hair.

Others had never used the pencil before; and odd enough were their first efforts. They knew not where to begin, or what to do; but sat gazing alternately upon the bust and the paper, in utter despair. At length, however, a line would be drawn either for the forehead or the nose; and, indeed, when they attempted to compare it with the model, it was generally found to answer equally well for either. But after a few more trials something like a contour would be formed, and the scholar would generally rise with increased confidence from his first essay. By degrees the task be-

came easier: the form of the face, which seemed at first to rest on the eye alone, became pictured upon the memory, and the hand grew flexible and obedient to the will: instead of a glance at the bust and a stroke on the paper, a full line would be completed before the student turned back to his bust: and in place of the unintelligible scrawls that I had seen in the commencement, features, shade, and expression itself, soon rose under the pencils of my companions.

Nor was the progress of the other classes less surprising. Geography, history, the mathematics, and above all, the French language, were taught with all the variety of exercises that distinguishes the method. In this last, there was at first, a far greater difference of progress among the scholars, than I had yet observed. Some would commit their task to memory with the utmost readiness; while others could scarcely proceed beyond the first sentence; and a few actually hesitated in the first line. Some would develope an idea with great ease, or draw from the examination of a few facts, many striking and just remarks. Others, on the contrary, would find but little to say concerning the same facts, and would distinguish, in a full description, nothing beyond the original thought. When called on to justify their pieces, the first would point out, without hesitation, the fact to which they were indebted for each idea, and arrange all their observations under the heads from which they were drawn; while the others could scarcely account for a single reflection, or tell why they had made one observation rather than another.

I thought, at first, that this was the result of natural distinctions; but I soon perceived that it might, with greater propriety, be traced to difference of attention. A young Portuguese, whose indolence had distinguished him even among the indolent, was by one of those changes in feeling which we often witness in boys, suddenly aroused to greater assiduity and more active exertion. A total change in his exercises followed this change in his feelings; his narrations became full and connected; his compositions more just and more extensive. Facts which had made no impression upon his mind, but a few weeks before, would now suggest new ideas, and lead to just reflections. The more he studied them, the more he found to observe; and if he changed his point of view, his subject, like the bust he drew from, presented a new aspect.

I had never, until that moment, felt how much good writing depends upon a careful examination of the subject: upon viewing it in every light, and subjecting it to every species of scrutiny. And I could not but think that even in the ordinary concerns of life this habit would secure the greatest advantages; that he who possessed it would find it spontaneously exerting its salutary influence upon

all his actions and thoughts; that he would see everything from the proper point of view; know where to lay hold on a subject, what conclusions it will bear; — that the deepest investigation would call for but little effort; and that reason would become the sole guide and arbiter of his enterprises.

In no point, however, did I feel a deeper interest than in the possibility of conducting the exercises of every individual without the assistance of explanation. The want of them, I then believed, had often retarded my own progress; and although I had known a few individuals who could advance without them, I could not but look upon them as singular exceptions. My first observations all tended to confirm me in this belief; and I heard from day to day, the same applications for assistance, to which I had been accustomed in other schools. There was, however, but one answer for all; for a large portion of our scholars had early imbibed the true spirit of the method. 'We learned it,' they would say, 'by ourselves: read your book attentively, study it with care, and you will find the clue to its meaning as easily as we.'

I remember one instance in particular, that made a deep impression on my mind at the time. The young Portuguese, of whom I have already spoken, was one evening exceedingly perplexed by the minims and crotchets in his music. He called on every one of us for assistance, but none of those who had gained a knowledge of them by hard exertion, were disposed to communicate it thus easily to him. He rose at length from his seat and was closing his book in despair, when one advised him to make another trial, playing the air, carefully, and observing the notes and his hands while playing. He had scarcely played three bars in this manner, when the light flashed upon him. No one could have seen the smile of triumph that sprang to his lips, and have continued to believe that explanations are an assistance to the scholar, or difficulties an insurmountable barrier.

This feeling of confidence was in a few months generally spread throughout the school. Excited by what he had seen others accomplish, and encouraged by the recollection of what himself had done, each boy labored with assiduity at his own task. Whenever an obstacle occurred, he tasked all his energies to overcome it. If unsuccessful at the first trial, he returned to it again; and continued his exertions until the victory was secured. Thus the most timid daily gained confidence in their own powers, and the same circumstances which in other schools discourage and retard the scholar, became, in this, his greatest incentive to industry.

Art. V. — Mechanical Instruction.

[We extract the following interesting article from the Sunday School Journal, a paper which we are gratified to find constantly recognizing the necessity of *education*, in the widest sense, as the basis of religious instruction. Since the public statement of our own affairs we have heard, with astonishment, that among the *hundred thousand teachers* and the *millions of friends* of Sunday Schools, connected with the Society by whom this interesting and able Journal is issued, there are not enough disposed to read on the subject to pay the expenses of its publication! The Journal of Science, the only scientific periodical of eminence, is sustained with difficulty; the Journal of Health which presented solid and useful information in a manner adapted to amuse and attract, has failed; while Blackwood's Magazine, and a host of ephemeræ, not worthy to be named with it, are flourishing. Is not the 'mechanical instruction,' exposed in the following article, one source of this distaste for everything solid, everything which requires theory? Are not the 'easy methods' of modern times, which involve no mental effort, contributing to the same result? Is the evil to be remedied by reducing religion, and science, and literature, and the principles and methods of education to such a diluted state, and infusing such spicy and savory ingredients, as shall gratify this infantile taste, and sustain this feeble form of mental action? In other words, is the taste to be *corrected*, by being *pampered*? And is it advisable to train up the rising generation to the same taste, by similar publications? Must our statesmen become demagogues, and our physicians quacks, and our authors, novelists and paragraph writers? Are there none who have resolution, and skill, and power, to unite and stem this torrent, and at least, prevent its overwhelming another generation? Is there no guilt resting on those who are swelling and driving on its current, merely to procure temporary fame or profit?]

'A parish minister' has given, in the British Magazine, a history of his experiments in education, which places in a strong light the advantage in all respects of making religious instruction a part of the elementary education of children. His descriptions are extremely natural, and will be recognised as true, on this side of the Atlantic.

'There was no school,' he says, 'in my parish when I first came there; and, as I heartily agreed with the many wise and excellent persons who are the advocates of the education of the lower classes, I determined to have a daily school at N———. I held a consultation with two or three of the principal residents in the parish, and we agreed that a subscription should be collected, a large room fitted up, and a schoolmistress engaged. I went my rounds through the parish to ask for subscriptions, and, though I had many objections to answer, I met with very few refusals. The school was established; a modest and intelligent young woman was sent for a month to a celebrated national school in the neighborhood to learn the system; her husband undertook the charge of the boys; and, to my great satisfaction, our schools began to flourish. The children were, of course, taught to repeat, and to repeat without a mistake, our admirable church catechism; and some explanation of the church catechism, infinitely more difficult to the comprehension of a child than the catechism itself. A good explanation certainly; but better suited to grown-up persons, and full

of hard long words. However, at our public examinations, all the parishioners who were present were highly gratified. The system had, we all agreed, been admirably pursued. Scarcely a mistake was made in repeating the printed answers to the printed questions, except by one or two inveterate dunces, whose countenances showed that there was something within which would resist most stubbornly the teaching of the most energetic master. The well-written and unblotted copy-books were handed about; and boy after boy, and girl after girl, passed before us, a sort of military file, holding up sideways their slates, on which sums or answers to questions in arithmetic were written down with astonishing readiness. The needle-work and knitting of the girls were pronounced to be beautifully executed, particularly a set of shirts which were made for my eldest son.

'The examination was concluded by a prayer and singing a hymn. The master, standing at the head of the school, gave the word of command, and, at the instant, every child dropped, as if shot, upon his knees; at another signal, every hand was folded and raised in the attitude of prayer; at a third signal, the head monitor commenced repeating the prayer. After the hymn had been sung, prizes were given to the children; and the master and mistress were highly complimented by myself and by the other visitors. Year after year passed away; the school still prospered; the examinations were still deemed satisfactory, and we continued to compliment the master and mistress till, I really believe, that it helped, among other causes, to spoil them, by filling them with an overweening conceit of themselves. Though humble and unpretending at first, they at last yielded to the general opinion, which had been so diligently urged upon them, that they were a blessing to the school and to the parish.'

This mechanical plan was prosperous, and thought to be complete, until the opportunity was presented of proving its practical effects. Were the children morally improved? The question was answered when the children became old enough to be put out to service.

'Without one exception, they disappointed our expectations. One was too high, in his own judgment of his abilities, for his place; he did not like manual labor, though a remarkably strong little fellow. Another ran away from his service, and did not make his appearance till some years after, broken down in health and spirits, to die in the poor house. A third was suspected of thieving. Of the girls, one very pleasing and very pretty girl was discovered to be a liar, whom nobody could trust. Such were some of the fruit of our school. At least, I now began to suspect that something was wrong, particularly when I remembered that, for some time past, I had heard complaints made that the school children, when out of school, were a 'most audacious set;' that, indeed, no one had ever known the children of the parish so disorderly or so insolent as they had lately become.'

These results brought the minister to reflection and self-reproach.

'I asked myself the question, What kind of instruction ought to be given in a school which is under the direction of a Christian minister? There could be but one answer, and that is, Christian instruction. But had not Christian instruction been given? was not the Catechism *taught?* was not the Bible read and *taught?* The memory had been exercised, the understanding awakened; but what had been done to interest the heart? to instruct, to edify, to affect the heart? to impress upon the heart those truths which are peculiarly written for making wise and holy, the ignorant *heart?* Judging from my own experience, I should suppose that the great error in the management of many of our parish schools is beginning to show itself. I will not call it an error in the system, but it is surely leaving the system without the spirit, which should quicken all its mechanical machinery. It is not enough to make the school a mere machine, working with mechanical correctness. The error is not in the system; for books of sacred instruction, above all, the Bible, are in the hands of the children, and all this pre-supposes, in like manner, that the book is held in the hand, that it may be taken into the heart, and the effects of it shine forth in the life and practice. No child should be allowed to think it possible that the lessons of holy scripture can be learned for any other reason than that they may reform the heart, and therefore the conduct.'

Art. VI. — Report of the American School Agents' Society.

[Concluded.]

[In our last number we published that part of the Report of the American School Agents' Society, which refers to its general operations, and the information obtained concerning schools in New England. We now insert the remainder.]

In *Rhode Island*, it appears from the Report of a Committee appointed for that purpose, there were in 1832 only 20,597 children to be found in any of the schools of that State; while the actual number of children between the ages of 5 and 15, according to the census was 22,041: and according to the best estimates, the number between 4 and 16, the usual ages of attending school, could not have been less than 25,000, probably 26,000. But, at 25,000, only, the number of those who are wholly uninstructed would be 4,403, or *one sixth* of the whole. It was also ascertained by the above mentioned Committee that *six sevenths* of the public schools in that State are continued only three months in the year. There

are, however, private schools in many places which are continued from three to six months in the year, while the public schools are discontinued.

In *New York*, according to the official Reports made to the Legislature, there are 508,878 children, between 5 and 15 years of age, of whom only 494,959 actually attend school; thus leaving about 14,000 children of a suituble age to attend school, without the means of instruction. This estimate does not include the city of New York, for in that alone it has been ascertained that there are 13,000 who are destitute; — an aggregate for the whole State of about 27,000 *officially reported*; and this too in a State whose common school system is deservedly regarded as the best in the United States. The agent finds reason to believe that the whole amount is not less than 50,000 to 80,000, including new counties and towns.

The following account is given by the agent of the state of schools in seven different counties which he visited.

'In visiting schools of this part of the State I found many of them in a miserable condition. Learned and leading men were giving their attention to higher institutions, and overlooking the common schools; and these primary places left altogether in the hands of the ignorant, the indifferent, and in many cases, the vicious and immoral. I found even ministers not giving that attention to the character of the teachers, and the condition of the schools, and the progress of the children which they might, and I hope will hereafter. I found but a very few schools that had suitable books, and many almost without books of any kind — school houses are often badly located and constructed — school meetings thinly attended and poorly conducted — conventions of teachers (except in two or three counties) had never been called — no correspondence between one town and another — no improvement made known or introduced. Lyceums have been established in a few towns in these counties, but they are poorly sustained and excite but little interest. There are few public libraries or cabinets.

'There are obvious causes for this state of things. Parents show a criminal indifference to the education of their children. They do not even coöperate with the teacher; and seldom excite a love of study or books, by their own example. They employ, very generally, teachers who are unqualified; and are unwilling to give a compensation which would secure better instructors. Cheapness and relationship are usually the most essential qualifications in an applicant. Most teachers taking the office of instructing as a temporary employment — a mere step to something more lucrative and honorable — without a love for their business or a natural aptitude to teach — their schools are always unpleasant, and the children generally unhappy. Improvements in school books and government are not introduced. The schools are conducted nearly in the same manner now as they were the last century.

'The Society was new to the people, but when its objects were made known, it received in every instance their thanks, best wishes and coöperation; and the cordial recommendation of the leading men in various parts of the State.'

In *New Jersey*, according to an official report made to the Legislature, there are 11,573 children who do not attend school, besides 1500 adults who are unable to read. The instruction of a much greater number is merely nominal.

From a speech of the Governor of Pennsylvania in 1830, it appears that of 400,000 children in that state, 250,000 were without instruction. This is nearly *a fifth* of the *whole population*, and taking into consideration the great number of adults who cannot read, would be *one fourth*.

In *Indiana*, there are 22,000 children and 18,000 adults who cannot read; and yet the whole population in 1830 was only 343,028. The population here is about *one eighth* of the whole. A gentleman who has recently explored this State, informed a public meeting in New York that not more than one child in five, in that state, enjoyed the benefits of instruction.

In Kentucky we learn from returns, made by the deputy marshals of each county, to the marshal of the State, in connection with the census of 1830, the originals of which are now in the possession of President Peers of Lexington, that in 1830, the whole number of children between 5 and 15 years of age was 143,738, of whom 103,337, or much more than *two thirds*, received no instruction.*

In Tennessee, only one quarter of the children are instructed, leaving about 160,000 destitute. Illinois is equally destitute.

Thus in five states only, viz. Pennsylvania, Kentucky, Tennessee, Indiana and Illinois, it is pretty well ascertained that there are at least 600,000 children destitute of the ordinary means of elementary instruction; making on the average nearly *one fifth* of the whole population of these states.

The juvenile population of Maryland, Virginia, North and South Carolina, and Ohio, amounts to 803,219. It appears probable, that

* The following table shows the proportion of children in Kentucky between the ages of 5 and 15 years who receive no instruction, in twenty of the counties; as published by Pres. Peers, in the Sunday School Journal, Vol. 1. No. 17.

Ten Counties, showing the least proportion of children at school.				Ten Counties showing the greatest proportion of children at school.			
Counties.	No. at school.	No. of children from 5 to 15.	Proportion at school.	Counties.	No. at school.	No. of children from 5 to 15.	Proportion at school.
Morgan,		893	00 in 893	Bourbon,	1,246	3,019	10 in 23
Russel,	28	926	10 " 300	Fayette,†	1,122	3,870	10 " 36
Clay,	51	959	10 " 180	Mason,	1,180	3,080	10 " 26
Perry,	52	992	10 " 180	Woodford,	666	1,812	10 " 28
Pike,	53	785	10 " 140	Mercer,	1,043	3,441	10 " 34
Laurel,	41	582	10 " 140	Scott,	690	2,525	10 " 36
Harlam,	64	841	10 " 130	Pulaski,	599	2,438	10 " 40
Knox,	113	1,104	10 " 100	Washington,	907	4,119	10 " 42
Cumberland,	241	2,005	10 " 90	Madison,	1,054	3,446	10 " 34
Carey,	126	1,154	10 " 95	Nelson,	957	2,873	10 " 30

† Exclusive of Lexington, where about 500 of 1000 children are at school.

the number instructed in these states does not exceed the average proportion in Pennsylvania and Kentucky; and this would leave two thirds, or 462,000 children without schools. How far the employment of private instructors among the higher classes of some of these states, may vary this estimate, we are not prepared to judge.

The remainder of the western states and territories cannot be supposed to be better supplied than Tennessee and Indiana; and we must presume, that of 190,000 children in these states, about 150,000 are destitute of common instruction.

By this mode of calculation we find reason to believe, that there were in 1830, in the states south and west of New York, 1,210,000 children without the ordinary means of instruction. With the rapid increase of those states, amounting to 45 or 50 per ct. in ten years, and with the annual addition of foreigners to the amount of 120,000 annually,* chiefly in these states, and usually very ignorant, the amount cannot safely be estimated at less than 1,400,000 in the whole United States.

But if we assume the estimate published in the circular of the Society, which certainly appears to be short of the true number, and suppose that 1,000,000 of the children of this free and happy country are growing up without any means of acquiring the most essential branches of instruction, or even of securing the key of knowledge, there is enough to rouse the feelings, and call forth the most vigorous efforts, of every patriot and every christian.†

But this is not the whole evil. If we desire to train up *citizens* who shall understand and support our institutions, and enable us to maintain our rank as intelligent people, something more than common school instruction must be given; and branches must be taught which require a degree of reflection not found at the ordinary age of those who attend our common schools. It appears from estimates laid before the Society at its annual meeting,‡ that the class of youth

* See Annals of Education, Vol. III. p. 412.

† As a single illustration of the results of the want of schools, described, an intelligent gentleman of Indiana addressed a letter to one of the directors, in which he remarks; That in the oldest part of the state, just on the borders of the Ohio, clusters of twenty or thirty families may be found on the rich river and creek bottoms, *three fourths of the heads of which are unable to read or write!*—whole neighborhoods where there has never been a school for their children — and not one teacher in the whole region capable of instructing in grammar or geography!

The wretchedness of the 'old field schools,' so numerous at the south, is known to every traveller. The character of the teachers cannot be expected to be good. The directors are credibly informed, that many of them are scarcely able to read and write; and the universal complaint of the friends of education in the destitute parts of our country is, that the ignorant and the incapable, the intemperate and immoral, are employed to teach, because *no other instructors can be obtained*. On whom does the duty of supplying this want devolve, if it be not on the north, where there are ample means of education — on the north, where it appears that the proportion of persons of the proper age for teachers, is far greater than at the south?

‡ Since published in the Annals of Education, Vol. III. p. 401.

between 15 and 20 amounts to 1,169,430. But it is found that all the schools of whose existence we have any evidence, beyond the grade of primary schools, could not receive more than *one fifth* of the number, even in Massachusetts and other New England states ; and not more than one tenth in other parts of the Union ; leaving, in the language of the statement, ' a mass of uncultivated mind among us, which shrouds the prospects of knowledge and religion in deep gloom.'

Circuit or Weekly Schools. In consequence of the urgent need of instruction for adults, the directors of the Society, soon after their appointment, recommended an experiment to be made in order to test the practicability of *weekly* or *circuit schools.* Accordingly, six such schools were formed in different places, where they could be visited by the instructors of the Seminary for teachers at Andover.

The plan adopted for conducting them was the following. Classes were formed to pursue such studies as the majority of the scholars in any school desired. In one, classes in reading, spelling, grammar, arithmetic and moral philosophy were formed. In another, they pursued the study of grammar, arithmetic, history, and writing. In a third, grammar, history, arithmetic, and natural philosophy were the studies. Such lessons were given at the first meeting of the school, as were supposed sufficient to occupy the attention of a class for a week. These lessons were explained, the manner of studying them specified, difficulties pointed out, and those parts which required special attention, were particularly examined. One hour was allowed for the recitation ; and the hour in which the lessons were to be recited was stated. At the *second* school the lessons assigned the previous week were heard, and the subjects, if necessary, were more fully explained or illustrated, by the aid of apparatus. A new lesson was assigned for the following week, in the same manner as before, and the exercises concluded with remarks on the practical utility of the subjects of the lessons

The general results have been the following. The lessons were more perfectly acquired, than they generally are in day schools — an unabated interest was kept up during the continuance of the school, where there were no uncommon circumstances to prevent, — the amount of knowledge acquired, varied from one *fourth* to one *third* of that commonly acquired at a regular *day school.* Many of the scholars labored in factories or shops, where they were confined *twelve hours* daily. The only time these could employ in study, was the small portion after six o'clock, in the evenings of the week not otherwise occupied. Nearly *all* were busily employed during every day of the week in labor. Few if any were less active in business than at any other time.

Scholars were often found in the same class whose ages differed more than *thirty years.* In several instances, parents and children pursued the same studies together, with great interest.

Among the *indirect* results, the following deserve notice. A con-

siderable number of the scholars have been induced to seek for more extensive means of instruction, and have connected themselves with high schools or academies. In many instances, new interest has been felt in the studies to which attention is given in the district schools, and has continued unabated to the present time.

Parents have evinced more anxiety about the character of district schools, and have put forth increased efforts to secure those of *good* character.

The instructors, engaged in making the experiment, believe that, had the classes been assembled in the day-time as well as the evening, the number in each place would have been considerably augmented, and the benefits materially increased; and they cannot withhold the opinion, that the system of weekly schools may be made an instrument of no common power, for benefiting the young, and especially the adult population, in the oldest and most densely settled states.

But there are portions of our country so thinly settled, that children cannot be collected in sufficient numbers to form regular schools, for many years to come. For these, no other provision can be made than by circuit schools, in which a teacher is employed to pass from neighborhood to neighborhood, at proper intervals. Schools of this kind have been found to produce admirable effects in Wales, and other thinly settled districts in Europe, and have supplied the place of stationary schools to an unexpected extent, by exciting in every family the spirit of inquiry, and rendering each, to some extent, a school of mutual instruction.

The committee have thus given a brief outline of the operations, and Society, and some of the results. It will be obvious from this sketch, without extending the report, that the Society has only aimed at *exploring the state of our country* and *carrying home to every part of it*, which their means have enabled them to reach, the *information collected*, and the improvements brought forward on the subject of education, by other associations, in discussions, and lectures, and publications.* They have employed the only means yet found effectual for such a purpose — the eye and the voice of the living agent. Our prisons were nurseries of disease and vice, until they were laid

* We never hear of jealousy between philanthropic institutions, but we think of a remark of the Lord Chancellor (then Mr) Brougham, which we heard at a public meeting of the Infant School Society in London, some years since. A new society of this kind, had been formed by the prelates of the established church, but a few days before the meeting; in consequence of dissatisfaction with the measures of this. Mr Brougham rose after the report was read, and observed that he had been happy to learn that an Auxiliary Society to this had recently been formed, by some distinguished prelates. '*Rival* Society, you mean, Sir,' said the Chairman (Lord Lansdowne, I believe). 'No Sir,' replied Mr Brougham, turning to the Chairman with a firm voice; '*I mean an Auxiliary Society.* Every Society which attempts to rescue these unhappy children from ignorance and vice, is *auxiliary* to us.'

Surely the field of ignorance and misery is not so narrow, even in our country, that we need fear its being appropriated too rapidly.—Editor.

open and reformed, by the efforts of a philanthropic agent, exclusively devoted to this subject; and our schools will, in our view, neither be examined, or extended, or improved as they should be, without some similar mode of action. In our busy country, the whole community have never been roused to attention or effort, on any subject, without similar means; and the benefit to be derived from them is obvious, in the feelings and the contributions called forth for every object to which they have been applied. The committee earnestly hope, that they will not cease to be applied to our schools, until every child, and every youth in our country, shall receive that education which is necessary to prepare him for duties as a man, and a citizen, and an heir of immortality.

On behalf of the Committee,

S. R. Hall, Chairman.

Art. VII. — On the Size and Ventilation of School-Rooms.

To the Committee of the American Institute, on the Subject of School-Houses.

[The negligence of the comfort and health of children which is evinced by the carelessness of teachers and parents and the overseers of schools, in regard to the ventilation of school-rooms, is as dangerous as it is unpardonable; and we feel bound to urge it upon their attention again and again; and we beg those who read our pages to make the facts known to others. With these views we insert the following article, addressed to the Committee on School-Rooms of the American Institute of Instruction, and which is unknown to many of our subscribers. We hope they will apply it to practical purposes, for the benefit of their own children or pupils.]

Gentlemen, — The *air* we breathe is so common a blessing, that its value is not estimated; and the importance of preserving its purity in schools, by constructing rooms of sufficient size, and providing ample means of ventilation, cannot be appreciated, without considering the influence which it has upon life, health, and mental vigor. While I shall not attempt to offer an entire plan for a school-room, I have hoped to promote the general object you have in view, by collecting the principal facts in relation to the subject of *air*, which ought to be considered in its construction and arrangements.

Effects of Air on the Blood. — The heart of a healthy individual, of mature age, beats about sixtysix times a minute, or four thousand times an hour; that of a child, much faster. The whole mass of the blood is supposed to pass through it, fourteen times an hour, or once in four minutes. After it returns through the veins to the *heart*, and before it is again sent out into the body, it is made to pass through the *lungs*, where it comes in contact with the air we breathe, and undergoes several important changes.

1. Its *temperature* is raised several degrees. 2. Its *color* is

changed, from a dark red to a light crimson — a change which the venous blood will undergo when drawn from the body and placed in the air; and it is found to contain an increased proportion of oxygen, or vital air. The whole mass of blood, thus altered every four minutes, conveys heat and nourishment and life to the extremities of the body; and if the process be interrupted, or imperfectly performed, for four minutes only, every organ and member of the body is of course more or less affected.

These changes *cannot be produced* without the presence of *oxygen*, or vital air; and they are produced in a healthy manner, only, by *such a mixture*, as we find in a pure atmosphere, consisting of 20 per cent of oxygen, and 80 of nitrogen. If an air *less pure*, or containing other gases, be breathed, these changes are not thoroughly produced; the lungs perform their task with difficulty; and the body and the limbs do not receive their *due supplies of nourishment*, and *vital energy*. They are even *injured* by the *half corrupted* state of the blood; and that weariness and languor are produced, which is always the consequence of spending some time in a bad air. Thus the person who attends a crowded assembly, where the ventilation is not complete, will find lassitude, and often chills extending through every limb, and languor invading every faculty of the mind; a feverish, unpleasant taste in the mouth; a restlessness through the following night, and often a degree of exhaustion in the morning, like that which succeeds a night spent in travelling. In order, therefore, to *preserve the body in health*, even after it has gained maturity, and especially to supply it when it is *growing*, and invigorate the constitution when it is forming, it is of the *highest importance* that the air should be preserved in that state of purity which the Creator designed. It is true, that disease and death do not *immediately* follow every deviation from this standard; but it is also certain that *some degree of injury must be produced;* and such a reason for neglect is as insufficient, as it would be to excuse ourselves for giving our friends or our children, food which was partially spoiled, or drink which was partially filthy, because it would not immediately destroy their lives or health. How preposterous and inexcusable would every one regard it, to give them their food constantly mingled with poison, or their drink with pernicious and loathsome insects. Yet it is not less inexcusable to furnish them with *half corrupted air*, or that which contains poisonous gases! The *food* is given but three times a day; while the *air* is administered *every moment*. The child is *at liberty* to *receive* or *reject* the food; but he is forced to breathe the air in which we place him. To put our children or friends in a room, which does not contain that supply of vital air which is necessary for their health, is not only to *offer* them a poison, but to *compel them to take it*. Who can tell how much evil has been ignorantly done in this manner — how much health and enjoyment have been destroyed — how many constitutions have been enfeebled! The multitude of pale faces and meagre forms to be found on our school benches, and in our colleges, and our manufactories, will answer the question in part.

open and reformed, by the efforts of a philanthropic agent, exclusively devoted to this subject; and our schools will, in our view, neither be examined, or extended, or improved as they should be, without some similar mode of action. In our busy country, the whole community have never been roused to attention or effort, on any subject, without similar means; and the benefit to be derived from them is obvious, in the feelings and the contributions called forth for every object to which they have been applied. The committee earnestly hope, that they will not cease to be applied to our schools, until every child, and every youth in our country, shall receive that education which is necessary to prepare him for duties as a man, and a citizen, and an heir of immortality.

On behalf of the Committee,

S. R. Hall, Chairman.

Art. VII. — On the Size and Ventilation of School-Rooms.

To the Committee of the American Institute, on the Subject of School-Houses.

[The negligence of the comfort and health of children which is evinced by the carelessness of teachers and parents and the overseers of schools, in regard to the ventilation of school-rooms, is as dangerous as it is unpardonable; and we feel bound to urge it upon their attention again and again; and we beg those who read our pages to make the facts known to others. With these views we insert the following article, addressed to the Committee on School-Rooms of the American Institute of Instruction, and which is unknown to many of our subscribers. We hope they will apply it to practical purposes, for the benefit of their own children or pupils.]

Gentlemen, — The *air* we breathe is so common a blessing, that its value is not estimated; and the importance of preserving its purity in schools, by constructing rooms of sufficient size, and providing ample means of ventilation, cannot be appreciated, without considering the influence which it has upon life, health, and mental vigor. While I shall not attempt to offer an entire plan for a school-room, I have hoped to promote the general object you have in view, by collecting the principal facts in relation to the subject of *air*, which ought to be considered in its construction and arrangements.

Effects of Air on the Blood. — The heart of a healthy individual, of mature age, beats about sixtysix times a minute, or four thousand times an hour; that of a child, much faster. The whole mass of the blood is supposed to pass through it, fourteen times an hour, or once in four minutes. After it returns through the veins to the *heart*, and before it is again sent out into the body, it is made to pass through the *lungs*, where it comes in contact with the air we breathe, and undergoes several important changes.

1. Its *temperature* is raised several degrees. 2. Its *color* is

changed, from a dark red to a light crimson — a change which the venous blood will undergo when drawn from the body and placed in the air; and it is found to contain an increased proportion of oxygen, or vital air. The whole mass of blood, thus altered every four minutes, conveys heat and nourishment and life to the extremities of the body; and if the process be interrupted, or imperfectly performed, for four minutes only, every organ and member of the body is of course more or less affected.

These changes *cannot be produced* without the presence of *oxygen*, or vital air; and they are produced in a healthy manner, only, by *such a mixture*, as we find in a pure atmosphere, consisting of 20 per cent of oxygen, and 80 of nitrogen. If an air *less pure*, or containing other gases, be breathed, these changes are not thoroughly produced; the lungs perform their task with difficulty; and the body and the limbs do not receive their *due supplies of nourishment*, and *vital energy*. They are even *injured* by the *half corrupted* state of the blood; and that weariness and languor are produced, which is always the consequence of spending some time in a bad air. Thus the person who attends a crowded assembly, where the ventilation is not complete, will find lassitude, and often chills extending through every limb, and languor invading every faculty of the mind; a feverish, unpleasant taste in the mouth; a restlessness through the following night, and often a degree of exhaustion in the morning, like that which succeeds a night spent in travelling. In order, therefore, to *preserve the body in health*, even after it has gained maturity, and especially to supply it when it is *growing*, and invigorate the constitution when it is forming, it is of the *highest importance* that the air should be preserved in that state of purity which the Creator designed. It is true, that disease and death do not *immediately* follow every deviation from this standard; but it is also certain that *some degree of injury must be produced;* and such a reason for neglect is as insufficient, as it would be to excuse ourselves for giving our friends or our children, food which was partially spoiled, or drink which was partially filthy, because it would not immediately destroy their lives or health. How preposterous and inexcusable would every one regard it, to give them their food constantly mingled with poison, or their drink with pernicious and loathsome insects. Yet it is not less inexcusable to furnish them with *half corrupted air*, or that which contains poisonous gases! The *food* is given but three times a day; while the *air* is administered *every moment*. The child is *at liberty* to *receive* or *reject* the food; but he is forced to breathe the air in which we place him. To put our children or friends in a room, which does not contain that supply of vital air which is necessary for their health, is not only to *offer* them a poison, but to *compel them to take it*. Who can tell how much evil has been ignorantly done in this manner — how much health and enjoyment have been destroyed — how many constitutions have been enfeebled! The multitude of pale faces and meagre forms to be found on our school benches, and in our colleges, and our manufactories, will answer the question in part.

The following is one fearful example of the effects of negligence on this point. In the Dublin Hospital, during the four years preceding 1785, two thousand nine hundred and fortyfour children, out of seven thousand six hundred and fifty died within a fortnight after their birth; or thirtyeight out of every hundred. The physician, Dr Clarke, suspected the cause, and introduced air, by means of pipes six inches in diameter. The consequence was, that during the three years following, only one hundred and sixtyfive died out of four thousand two hundred and fortythree, or less than four in a hundred. The fair conclusion, therefore, was, that two thousand six hundred and sixtyfive children, of the previous years, died for want of pure air!!* We shudder at the history of the 'black hole of Calcutta;'† but here was a sacrifice of life, eighteen times as great, in an institution of charity!

Quantity of Air Consumed. — A man in health, is supposed to breathe, on the average, twenty times in a minute, and to take in forty cubic inches of air at one inspiration; or eight hundred cubic inches, equal to three and one fifth gallons per minute. Of this, one fifth only, or one hundred and sixty cubic inches, is vital air, or *oxygen*; and thirtytwo cubic inches, or one fifth of the whole vital air contained, is consumed in the minute, in order to produce the changes in the blood which are necessary to health. In five minutes, therefore, the vital air of the whole three and one fifth gallons would be consumed; or, in *one minute*, the vital air of two-thirds of a gallon. In one hour, the whole vital air of nine thousand six hundred cubic inches, or fortyone gallons, would be destroyed, and respiration could no longer be performed.

But in addition to this, an amount equal, or nearly equal, to that of the oxygen consumed, is produced of *carbonic acid*, formerly called fixed air (which often destroys life in wells); and this *poisonous gas* is breathed in place of vital air. At the end of half the time mentioned, therefore, we shall have an air composed of only half the proper quantity of *oxygen*, and corrupted by an equal quantity of a poisonous gas. In this view of the subject, we can hardly doubt that *double the supply* we have stated, *i. e.* twenty thousand cubic inches, or eightytwo gallons per hour, would leave a person to faint and die. Facts confirm this estimate.

Particular experiments were made on this subject by two English philosophers, Dr Henderson, and Mr Kite. Dr Henderson breathed six hundred cubic inches for four minutes; or nine thousand cubic inches, equal to thirtysix gallons, an hour; and was *compelled to stop*, after suffering much oppression and distress for breath.

Mr Kite breathed five hundred and ninetyone inches, for a minute;

* There are many examples which show that typhus fever is often the result of neglecting ventilation; and it is rendered contagious in the same way.

† In a dungeon, so called, at Calcutta, 18 feet square, 146 persons were confined; and although there was one window for the admission of air, 123 of the number died in agony, in ten hours!

equal to seventeen thousand seven hundred and thirty inches, or one hundred and fortyone gallons per hour, and *was greatly oppressed for breath.* He breathed the same quantity one and a half minutes, and the oppression became intolerable; and in two minutes use of one third gallons of air, (equal to seventy gallons per hour) he became giddy, his face swelled, and he fell back in his chair.

Halley says, that it requires at least one gallon per minute to *sustain life*, or sixty gallons an hour; but this was the air compressed by being in a diving-bell, at the bottom of the sea; and the quantity must be estimated higher at the surface of the earth. *Lavoisier* says, that, according to his experiments, a man would *die* in 5 cubic feet, or eight thousand six hundred and forty inches, in an hour.

It would appear, then, that when a person is *confined* to three hundred cubic inches, 1¼ gallons of air a minute, or to eighteen thousand cubic inches, or seventytwo gallons an hour, he will be in danger of *oppressed breathing, and fainting.* He will not receive the supplies necessary to maintain his vital energies without *much more air.* The question, 'How little can be afforded without immediate danger to life?' is one which *should never be asked* by a kind, or even faithful educator, concerning that which God bestows in unlimited abundance, and which can only be excluded by inexcusable parsimony, or cruel neglect, towards those under our care. We are not merely bound *to keep children alive*, but to give them all the air which is necessary to *invigorate* their *constitutions, to produce comfort, and cheerfulness, and activity,* of body and mind. We must therefore resort to the instructions of experience as to this point.

Proper size of school-rooms. — Unfortunately, we have few particular observations in regard to school-rooms.

The French writers on *hospitals*, deem it *indispensable* that each patient (even in the private sick room of a school), should have 6½ *cubic toises of air*, — equal to fourteen hundred cubic feet; *and such* is the plan of the best European hospitals. Sir Gilbert Blane says, six hundred cubic feet are necessary in England (with a climate much colder, and an air generally purer than ours) for each patient; and that with a less quantity 'it *is impossible to maintain the requisite purity of the air.*' If we take but half the quantity required by the French (allowing the rest on account of disease), it will probably be a better rule for our climate; and when we recollect the superior means of ventilation in the immense rooms of a hospital, (in many cases 70 feet long and 14 feet high) this will *by no means be too much* for a small, close school-room. We shall then have a space of *seven hundred cubic feet* for each pupil; — or, supposing the room to be eight feet high, each child should have *eightyseven square feet*, or a space of 8 feet by 11. It appears from the facts collected by Mr Adams,* that the smallest allowance, in several distinguished schools which he visited, was 7¼ feet; and the largest, sixteen to a scholar;

* See Adams's Lecture, in the collection of Lectures delivered before the American Institute in 1830.

or, if the room were ten feet high, (as we believe those referred to are) *seventytwo to one hundred and sixty cubic feet.* Lancaster, whose rooms in England were 15 or 20 feet high, in many cases allowed nine square feet to a pupil, or from one hundred and thirty to one hundred and eighty cubic feet to each; and this where the most rigid economy was demanded. Supposing the ceiling to be ten feet high, — at only the allowance of one hundred and fifty cubic feet to an individual, the *smallest* dimensions of a room for thirty pupils should be 22 by 20 feet; — of one for fifty pupils, 30 by 25 — for seventy pupils, 35 by 30 — and for one hundred — 44 by 34 feet. A *liberal* allowance would require at least *one third more;* and *double the space* is *highly desirable.* But if we reduce the space occupied by each child to *less* than that here allowed, we *hazard his health and constitution,* as well as his immediate comfort, in order to avoid an expense comparatively of no moment. And *with this amount of space,* nothing but *frequent and careful ventilation,* and great attention to cleanliness, in the persons of the pupils as well as in the room, will prevent their suffering from the constant exhalations, (often loaded with disease) which arise from the skin, the stomach, and the lungs; and which cannot be weighed and measured, except by the baneful effects they sometimes produce, when they are suffered to accumulate. These *exhalations,* let it be remembered, are *thrown off* by the organs, *because they are injurious to the person himself.* But without due ventilation they must be *respired by others;* and not only that, they are mingled with the saliva in the mouth, and *pass with it into the stomach.* Who can wonder at the loss of appetite, and diseases of the lungs and stomach, which are so commonly connected with ill-ventilated school-rooms! Such places are literally nurseries of disease, and open sepulchres for health, and happiness!

Ventilation of school rooms. — In regard to the mode of ventilating school-rooms, it should be remembered, that the gases and exhalations in a crowded assembly are of two kinds; 1st, those which ascend on account of their heat or lightness to the upper part of the room, and are perceived by those who sit in elevated galleries, or whose heads are in any way raised towards the ceiling; and 2d, the *carbonic acid* or fixed air, which is heavier than the atmosphere, and therefore descends, and occupies that part of the room next the floor, in the same manner as it is found to settle in wells and cellars. To favor the escape of the lighter exhalations, it is indispensable to have openings over the tops of the windows, or in the upper part of the room; and scarcely any degree of ventilation below will supply their place.*

* I presume many have noticed a fact illustrating this remark, which I have more than once observed in travelling; that when a room which has been closed during the day in warm weather, is aired at night by windows opening only from below, the air will appear for a short time quite fresh; but on shutting the windows, will become, in half an hour, as close as ever. In this case, the warm exhalations and lighter gases remained undisturbed at the top of the room; and as soon as the lower air, which has been cooled, becomes heated, and ascends, they are again brought down, and become perceptible.

In the winter season, an opening into the upper part of the chimney, when the draft is good, will answer the purpose. Where this is wanting, and especially in rooms where lights are used, a very excellent means of ventilation is found in an artificial chimney, formed by a pipe issuing from the upper part of the room, with a large funnel at the opening, in which a lamp is kept burning. By means of the strong draft here produced, Sir Humphrey Davy, the celebrated English chemist, cleared his laboratory in a very short time, after having filled it with noxious gases.

But it is not less necessary to guard against the effects of the *carbonic acid*, which settles in the lower part of the room. In caverns and wells, it often rises only to a certain height; so that above this level an individual may breathe and a light may burn, perfectly well; while a light would be extinguished and respiration obstructed, or stopped, on descending below it. Thus, in the celebrated *Grotto del Cane* — in Italy, in which this gas issues from a cave, and although it is invisible, can be found by its effects to flow along the ground — a dog will die, while a man whose mouth is elevated above the level of the gas, suffers no inconvenience. The teacher, therefore, especially if he is elevated on a platform, will not always be sure that the air of that part of the room in which the smaller children are breathing is good, merely because he perceives no want of purity in that which surrounds him; and, like the man in the Grotto, may be surprised to find that one who breathes below him suffers from the badness of air. On this account, it is of great importance that no part of the room should be below the level of the doors; and that regular provision should be made for opening the doors frequently, and for a sufficient time, to allow this deleterious gas to flow off. These circumstances seem to me very decisive arguments against making a school-room descend, as I have sometimes seen, towards the centre, producing a kind of 'black hole' for the smaller children; and they show the importance of employing rooms above the level of the ground, for schools, as well as other assemblies of people. The immediate evil effects are imperceptible perhaps; but seeds of disease and debility may be planted, which no subsequent care can eradicate.

The best mode of securing regular ventilation as well as uniform heat in a school-room, during the season when the windows must be closed, undoubtedly is, to introduce the external air from the side, and not from the cellar of the building, through a stove or furnace, so that it may enter the room warm, diffuse the heat equally throughout, and prevent the current of cold air which presses in at every crevice. In this way also, the doors and windows may be opened at any time, without cooling the room too much, as the air usually presses outward.*

* Several excellent plans have been discovered for this purpose, of which I trust the Committee will furnish some account. I have found, that a common stove might be made to answer the same purpose, in some degree, in the following way: — Let a close case of sheet-iron be made of such dimensions as to rise from the

The facts and principles presented in this paper, have been collected with care, from the best and most recent authorities in Chemistry and Physiology within my reach;* in the hope that they might serve to impress more deeply on the minds of parents, and of the guardians and visitors of our schools, the importance of providing the indispensable means of bodily health and intellectual vigor, *for teachers and their pupils.* It can scarcely admit of a doubt, that the premature decay, or sudden destruction of many a faithful teacher, and the debility of constitution of many a pupil, is brought on by the insidious but poisonous influence of the corrupt air in which they spend their days. The economy, which hazards such results, by providing small school-rooms, can only be compared to that infatuated avarice, *which destroys life in striving to obtain or to hoard the means of existence.* In no single mode, probably, could the American Institute be more useful, than in establishing and circulating correct views on this important subject; and I cannot but hope that their efforts will be the means of extensive good, on this and many other subjects of vital importance to the interests of education, and therefore, to the prosperity of our country.

I am, Gentlemen,
Respectfully yours,
WILLIAM C. WOODBRIDGE.

ART. VIII. — PRACTICAL LESSONS IN GEOLOGY. — DIALOGUE IV.

FATHER, I have just found something new. I saw some men putting down large, flat stones, for the side walks, that glittered in the sun like mica, and I took a little piece that was knocked off: what is it?

That which glitters on the outside is mica. But look at the edge of it: can you see nothing else?

Yes, father, I see grains; some of them like quartz, snd some white.

floor to the top of the stove, or a little above it, on three sides; and so large that there will be a space of two inches on all sides between the stove and the case. The stove should be raised on legs, or bricks, a few inches from the floor, and the opening beneath closed in front with brick — the other three sides being closed by the case. Introduce the air from without, by a wooden trough, and let it rise under the bottom of the stove, and it will pass out between the stove and its case in a pleasant state of warmth. The trough should be furnished with a slide, to regulate the amount of air, according to the warmth of the stove and of the room; and the case should be so constructed that it may be removed, in order to clean the space around the stove when necessary. The steam stove of Fessenden, maintains a far more equable and pleasant heat than those usually employed, and the same arrangements might be made for ventilation with this, even more successfully. Dampers should be used with great care; they often fill the room with noxious air.

* Among these are Hare's, Gorham's, Henry's, and Silliman's Chemistry; Richerand's Magendie's and Bostock's Physiology; Londe's Hygiene; the Paris Dictionary of Medical Sciences, and Rees' Cyclopedia.

Well, my son, those are quartz and feldspar; so that we have all the letters of the alphabet that make granite. But is it granite?

It does not *look* like it, because it is all in *layers* — a layer of mica, and then a layer of the grains, and then a layer of mica. And then it splits into large, flat pieces; and granite will not.

You have told the difference, my son. It is just like granite, except that the parts are in layers. It is called gneiss, a German word, pronounced *nice*. Sometimes you will find nothing but mica and quartz, and then it is called mica slate. But do you see any use in having it in layers?

O yes, father; it makes beautiful flat stones for walks; and I remember, the floor of my uncle's cellar is covered with it. I do not believe they could use granite so.

It is difficult to make it so thin. Observe, my son, as you go on, how we find something made for *every use;* and do not forget HIM that made them all.

DIALOGUE V.

Here is another piece of stone, father, that I found where they were putting up some pillars, that looks just like granite; but there is something black and shining in it, besides the mica.

Scratch it with your steel, and see what color it is.

I see, it is a dark green; but it looks *black*, at first.

It does; but if you pound it with another stone, you will find that it breaks green. Here is a large piece of it alone.

Why, father, it is so tough I can hardly break it.

Well, now tell me what are the qualities you have found.

It is green, and shining, and tough, but it can be scratched with steel.

You are right, my son, and it is the fourth letter of the alphabet in geology. It is called hornblende; horn, probably, for its toughness. It is found in the Egyptian granite; and I suppose gives it greater toughness and durability. Sometimes, too, we find rocks of hornblende alone.

Is this called *granite*, that has hornblende in it?

It is among builders, but geologists call it *syenite*, another *word* in geology. A great deal of the granite used in building, is *properly, syenite.*

But here is another *word* in geology, formed of hornblende mixed with feldspar. Do you see the white and green, mixed together, and the shining spots when you turn it?

Yes, father; what is it called?

It is sometimes called *greenstone*, and sometimes *trap*, from a Swedish word *trappa*, that means *stair;* and when it is very fine and close grained, so that it seems all black alike, it is called *basalt.*

Why, father, I have read about the Giant's Causeway, in Ireland, made of basalt. Is that the same?

Yes, my son; what do you know about that?

Why, sir, my geography says, that it is all in pieces like pillars; and it looks in the picture as if it had been cut into pieces.

That is true, my son. All the greenstone rocks break somewhat in the same way, and seem like a great many pillars of five or six sides set up together. The Palisado Rocks on the Hudson river, and the rocks near New Haven, in Connecticut, and in many other places in our country, look just so.

Art. IX. — Economy in Education.

There are some plans for economy in education, which, so far as we have known, have not received the proper attention in works on this subject.

The first plan may be styled kitchen education. The first point to be secured is, that the poor should not be well educated; because this would make them worth more, and make their wages too high for domestics. This being done, the improved plan will secure cheap education, and save all the trouble which would otherwise devolve upon the parents, by consigning this charge to domestics. When they are very young, there must be a nurse, of course, who often knows better than the mother how to manage children. If they are left *entirely* to her care, they become attached to her, so that they do not trouble their parents by hanging about them, or crying when they are going away. But the principal economy is, when they are five or six years old, and require watching and whipping to keep them out of mischief. The domestics can do all this, while they attend to their work; and this saves the parent's time. In addition to this, they become well acquainted with all domestic matters, by inspection; they can hear a great many stories and learn a great many words, which they could never hear from their parents or friends. They learn about the world, especially about all the domestics in the neighborhood; and sometimes hear what troublesome, disagreeable people their parents are; and 'how foolish it is to do what they order.'

But the plan of *street education* is still more economical and useful. It saves all the time of the domestics as well as of the parents. It makes a child still better acquainted with the world, especially in a city. Before he is eight years old, he will learn more of it, from the people that pass along, including ragmen, sawyers, beggars and truants, &c, than his father ever knew, if he was educated in the country. He will acquire from the boys in the street, a variety of ingenious tricks, and many habits which no instruction at home would ever have given him. He will learn a language, too, that will make him at home, in any forecastle, or cellar, or jail, in the country. It happens frequently that a boy will acquire the art of swearing in the most polite manner, before he is six years old, although his father only gives him sufficient examples at home to encourage it. And then, it takes away all the silly shamefacedness of a child. It will teach him the best mode of making his way through the world alone; especially if he is led away by other ingenious boys, and taught how to make excuses; and occasionally 'fights them.' But the best recommendation is, that *it costs nothing* — either in time or trouble, or money; and it will require *no reading, no thought, and no anxiety.* In consequence of the immense saving in all these respects, it has already been more generally adopted by parents, than any other of the modern *improvements* in education.

INTELLIGENCE.

Manual Labor Seminary at Lexington, Mass.

This Institution is to go into operation November 4th, 1833. The design of the seminary is, by means of a mechanic's shop and a garden, to furnish healthful and profitable exercise to all who desire it, in connection

with instruction, illustrated with a complete set of Apparatus, in all the branches usually taught in our highest Academies.

Manual Labor School in Africa.

We are happy to learn from the Liberia Herald, that Mr Savage, an agent for some emigrants who recently went out from New Orleans to Liberia, contemplates the establishment of a Manual Labor school in the colony. His present residence is at Millburg; and it is not unlikely that the citizens of that place may have the honor of putting into successful operation the first Manual Labor school in Africa.

A free school for recaptured Africans has been in successful operation at Liberia for some time, under the care of Rev. James Eden. No means can probably hasten more rapidly the progress of civilization in that region.

Massachusetts Free School in Liberia.

The people of Liberia appear highly gratified with the efforts which have been made by some of their friends in Massachusetts, to promote the cause of education among them, and to establish a free school on the basis of the free schools of Massachusetts; and they point to several places where such a school might be successfully located.

Parliamentary Aid to the Cause of Education in England.

The sum of £30,000 has been voted by the House of Commons for the promotion of education throughout England — the first parliamentary assistance if not the first parliamentary encouragement which has been given to Education in England for a great number of years. The money is to be placed at the disposal of the National and Lancasterian School Societies, to assist the establishment of schools in those places where, with a little aid at the commencement, they may be maintained by the voluntary contributions of the inhabitants. — *New York Adv.*

This is doing very well for England; but the sum is rather small to be distributed among 12,000,000 of people. The little state of Connecticut alone, with scarcely more than a quarter of a million of inhabitants, devotes nearly an equal sum to her schools, from the public treasury. We think England has *begun* in the right manner, however, for it should be the great object of all government movements of this sort to help the people to help themselves; and whenever legislative aid fails of this tendency, we may conclude at once, that it is misapplied.

Bequest to Teachers.

We learn from a London paper that Mr Dick, late of Scotland, left a large bequest, the interest of which was to be divided among the parish schoolmasters in Marayshire. A dividend of the accumulated interest was made about the end of August last, and each teacher received about 100 pounds sterling.

Young Ladies' Institute at Tampico.

An Institute for Young Ladies has been established at Tampico, in Mexico, by a lady from the College of the Legion of Honor, in Paris.

NOTICES.

Outlines of the Constitutional Jurisprudence of the U. S. &c, by Wm. A. Deur, Pres. of Columbia College. New York, Collins & Hannay, 12mo.

We have received the title and preface of this work. Its *object* is highly important. Of its character, a jurist is *now* the only competent judge.

Inquiries concerning the Intellectual Powers, and the Investigation of truth, by John Abercrombie, M. D., F. R. S. With additions and explanations, to adapt the work to the use of schools and academies, by Jacob Abbott. Hartford. F. J. Huntington, 1833. 12mo. pp. 276.

A work of great value, prepared for the use of schools, by an experienced teacher. We are much pleased with Mr Abbott's simple directions for study; and his plan of contents, instead of questions to each page, is one which we have long considered the best for advanced pupils.

Popular Lessons in Astronomy, on a new plan; in which some of the leading principles of the Science are illustrated by actual comparisons, independent of the use of numbers. By Francis J. Grund. Boston: Carter, Hendee & Co. 1833. 4to. pp. 24.

One of the luxuries in school books, which ought to have a place in every school, and as far as possible, in every family. The execution is on a scale, and in a style, superior to any we have seen; and the character of Mr Grund leads us to place entire confidence in its accuracy.

The New Testament of our Lord and Saviour Jesus Christ: Translated out of the original Greek; and with the former translations diligently compared and revised. Stereotype edition. Boston: Lilly, Wait, & Co. 1833. 12mo. pp. 453.

Another luxury, which we long to see in the hands of every child in the country. We consider the publishers as performing a great service, in thus guarding against the injury to the eyes produced by the wretched paper and small type, which often render the best of books less useful, and we sometimes feel, almost dishonor it. We earnestly hope they will reduce the size of the paper, so as to bring it, if possible, within the reach of our schools and of the aged poor, to whom the scriptures are often a sealed book, for want of such a copy. We have been favored with the specimen annexed. It has led us to the determination, that we will not hereafter tax the eyes of our readers, as we have done.

In our note concerning the Address before the Institute, we alluded to a formal denial, as it seemed to us and to others, preserved in the printed copy, of a religious opinion held by many of the assembly. We are gratified to learn that it was not so designed; but that the speaker intended to refer, not to opinions, but to methods of discipline alluded to in the same connection. We feel the liability to such inadvertences, because we have one to acknowledge ourselves, which the want of time to re-examine, prevented our noticing in our last number.

We classed the work of Miss Fry with two others, one of whose titles avowed the religious opinions of its author, and observed, that 'some portions of each involved the religious views of its author,' but that they *contained* 'admirable exhibitions of the true principles of *moral education* and *discipline*.'

A subscriber has complained to us, that our remarks were not sufficiently explicit, and that he was led to purchase a work entirely opposed to his own religious views. We find, on examining the work again, that Miss Fry has introduced the views of the 'Evangelical' party, as it is termed in England, much more than we at first observed, and that our remarks ought to have been more cautious, or more full. We are gratified however, in finding, that one of the most constant readers of the Annals, and of different religious opinion from our own on many points, has found no other instance in which the work has departed from its avowed principles on this subject. If others have occurred, we hope equal frankness will be used in stating them.

To the Friends of the "Annals."

We avail ourselves of the only method at present in our power, to acknowledge the kindness of numerous friends who have addressed us, and especially of those who have exerted themselves to gain subscribers to the Annals, or have contributed to purchase the volumes on hand. We are also much indebted to those who have so kindly urged its claims, in our newspapers and periodical works; and for the frequent, gratuitous insertion of advertisements.

The strong expressions of interest and confidence in the work, from every quarter, have been peculiarly gratifying, when we have recollected its defects. They are connected, not a little, with the perplexities of our threefold task, of providing for its editorial management, its pecuniary burdens, and our own support; and this we hope will be accepted as an apology for them. It is only on this ground that we have any regret for the sacrifices we have already made. We are still prepared to go on, and to decline lucrative occupations presented to us, provided we can be relieved from a part of this task, by the purchase of the sets of the work now on hand, with an equal number for the ensuing year. But we beg our friends to recollect, that the *personal interest* of the editor is not consulted by sustaining him at a post, which at the best, will require a sacrifice; and we hope their aid will be given, *only so far as they regard the object as important.*

If they proceed on this ground, they will doubtless meet, as we have done, with indifference and prejudice in various forms. They will find parents who pay more attention to every study, and every object of interest, than to the character of their children: guardians of schools, who consult only for economy or display; and even teachers who have "finished their studies," and stereotyped their opinions and plans, and who do not desire to hear of improvements, lest they should admit their own fallibility, or be led to some labor which they are unable or unwilling to perform. In advocating this cause, they will see the intuitive truth of the maxim, that without elementary and secular education, neither the lecturer, nor the preacher, nor the useful book — not even the bible itself — can exert their proper influence, on civilization or religion. They will understand friends of education at the West, who tell us that Sunday schools often fail for want of the aid of elementary schools, and educated teachers; and that the wildest errors in religion, arise from the same deficiency. And yet they will find men devoted to the cause of humanity, who forget the importance of the foundation on which the whole fabric of civilization and learning and religion rests, and are almost impatient with those who consecrate themselves, or their works, entirely to this neglected portion of the building; who will send hundreds to cleanse the streams of evil, and scarcely ten to purify the fountains, — the weekly schools of childhood.

But we hope, that with some, at least, all this will only appear as new evidence of the necessity of exertion — as a new motive to urge the employment of every means for diffusing information, and exciting interest on the subject. If a reformation is to be effected in the extent and character of our national education, it will of course meet with opposition, not only from prejudice and apathy, but from ignorance and indolence and pride. And when did ignorance seek for light, or prejudice pay for improvement; or when did indolence or apathy or pride attempt to reform themselves? These obstacles never were overcome — a reform never was effected — except by the *untiring efforts* and *unsparing sacrifices of the few, first interested in the subject*, and by their exertions, in carrying home knowledge and conviction to the minds of others.

What would have been done for temperance, if its advocates had waited until the adepts and the novices in drinking had come to buy their publications? What would be done for any object involving the moral interests of our race, if its friends were to wait till their efforts were called for, and paid? The doctrine of the correspondence between demand and supply does not apply here; because the *need* is greatest, where the *want* is least felt.

For ourselves, we shall not cease to labor for this great object. If *half our subscribers*, scattered over the Union, will join us, a host of friends may in time be enlisted; and before another generation has risen, THE WORK MAY BE DONE!

If each will undertake to *explore* and make known the condition of schools, first in his own neighborhood, and then in his county and state; if he will lay before others, their defects, and the proper remedies, he will soon excite *them* to action, and establish communication, and form associations, among the friends of the cause. If each will study the subject, and spread around him by correspondence, and by conversation, by reading and lending books, and by lectures, the information he acquires, *ignorance* must open her eyes, and *apathy* will be roused, and *indolence* will be compelled by shame, if not by interest, *to act*. The results will enable him to conquer prejudice itself, so far as to engage every friend of humanity in the great object; and with the blessing of Providence the thorough education of every American youth may be secured.

Should this journal go on, we shall endeavor to coöperate more directly with them in these efforts. When it came into our hands, we found a few hundred readers only remaining, who had adhered to it from their deep interest in the cause, even when it was without an editor. We felt that to such persons, already familiar with the subject, we should chiefly address ourselves in regard to the general state of education, and the most recent improvements at home and abroad; and present extended documents and statistical views, which might put them in possession of great facts and principles, rather than the details adapted to immediate use. We have received all the approbation we could reasonably hope in this course; and we rejoice that we have been able to accumulate a mass of materials, which are considered by able educators, as of permanent value. But we feel that it is not so necessary hereafter to *add* to the amount, as to *apply* what has been presented to the purposes of social life, of the family, and of the school. To these objects, which are demanded by our extended list of subscribers, we shall devote more of our pages. Still we mean that the work should be substantial in its character, and should serve as a book of reference for the history of education. We are not willing that it should contribute to cultivate the pernicious taste so prevalent, for that which requires no thought, and which for all practical purposes, is banishing everything but the newspaper, from the family library, and retains the rest as mere ornaments. We have hitherto been unsuccessful in our efforts to secure regular contributions. It would gratify us if we could receive the aid of the friends of the cause, in the literary as well as the financial concern of the work; and thus give it greater interest to the various classes of readers.

We have been asked why our work did not enter more into the subject of religious education. We reply; that we have already *many* periodicals on this subject; we need *one*, at least, of another kind.

Public opinion demands that we have general schools, for the communication of general knowledge; and in most cases, it will not admit the introduction of peculiar religious views. To these schools, all sects send their children for instruction. We can see no other mode of reaching, even the children of religious parents, in their *weekly* and *permanent habits*, but through the medium of these general schools, and by a work which

corresponds to them in character. We have felt anxious, then, to procure the opportunity of pleading with every parent, and teacher, and school committee, and legislator, that A GOD should be acknowledged, and THE SCRIPTURES, *without note and comment*, should be a text book, in every school and literary institution in our land. We sought for the privilege of pointing out to all who act on the subject, the alarming defects prevailing in our country in the education of the *body*, the *mind*, and the *heart*, and of the plans of instruction and discipline, which in our view, and in the view of men far wiser and more experienced than ourselves, are preparing the way for a race of feeble bodied and inefficient beings, and thus sapping the foundations of our religious, as well as our political institutions.

In these views, we find ourselves sustained by some of the most able and devoted friends of learning and religion, of various sects; and on these we feel bound to act. We cannot reserve or compromise our own peculiar religious views, where we are called to act on that subject; but we feel that there is a need, in regard to Education, of union among all who venerate the Scriptures, or who value our political and religious institutions; and in publications designed to promote this, we consider such views as much out of place, as in a journal devoted to the cause of Temperance or of Liberty. We have met with *opposition*, only from presses and individuals avowedly opposed to all religion; we shall always regard this as the best evidence of our faithfulness. We ask only the aid of the friends of religion and morals.

THE EDITOR.

PUBLISHERS' NOTICE.

The following proofs of public confidence in the Annals satisfy us that the persevering efforts of its friends may now secure its continuance.

If the expenses already incurred could be paid by the sale of the volumes on hand, with an equal number for the next year, at a reduced price, the interest now excited in behalf of the work is increasing its subscription so rapidly, that it will doubtless go on. If not, it must stop.

A number of distinguished friends of education, have recommended a subscription to purchase these volumes, at $10 per set, of four volumes, (1831, '2, '3, '4, bound in cloth backs) for distribution among our institutions and libraries, in order to preserve the only American periodical on this subject, and to disseminate the information it contains. Single sets for private use, $12. Orders (specifying whether the volume for 1834 would be in numbers or bound,) may be addressed to the Editor and Proprietor of the work, or to ALLEN & TICKNOR, *Publishers.*

BOSTON, Nov. 1, 1833.

From the North American Review.

"The work before us is, we believe, the only one of the kind that is published in this country, and we regret to learn that the patronage which it has hitherto received, is not sufficient to justify its continuance. We sincerely hope, that efforts will immediately be made, with all the necessary vigor and spirit, by the friends of education throughout the country, for placing it upon a better footing. We consider it entitled, not less by the manner in which it is conducted, than by the nature of the subject, to the support and encouragement of all who are really interested in the cause. — Few persons in the United States unite so many qualifications for carrying on such a work as Mr Woodbridge; and no one could employ them with a truer and more disinterested zeal for the object. * * * * * In this form, the work has been continued for nearly three years; and in the value and variety of its contents, has fully realized the highest expectations that had been formed of it. We should regard its discontinuance as a serious public misfortune."

From the Superintendent of Common Schools in the State of New York.

This work contains much valuable information in regard to improvements in schools, and in the modes of instruction; and its introduction into *every school district* would have a favorable influence, in furnishing new views on the subject of instruction, and in improving the standard of education in common schools.

Extracts of Letters from Teachers.

I am convinced that no teacher would be without it, if he were apprized of the advantages resulting from such a publication.

Another says — It is more useful to me than all the other periodicals I receive. Please consider me a *subscriber for life.*

Extract of a letter from a Mother.

This work comes like a cheering helper in Education. I would not be without it, for twice its price of subscription, which I *earn yearly* by my *knitting needles.*

From the Sunday School Journal.

Few periodicals published in this country, present higher claims to patronage than the Annals. The present editor is abundantly qualified for the department he occupies. We have no hesitation in saying, that it is the DUTY of every teacher to make himself acquainted with the contents of the Annals of Education.

From the New York Observer.

This is the only work in our country devoted to the subject of improving the system of school education; and it has been edited in a manner entirely satisfactory to those most deeply interested in the subject. We hope, for the honor of our country, that the friends of education will not permit the work to be suspended.

From the Boston Christian Register.

We regret to learn from recent notices, that the patronage of this valuable publication is so limited as to prevent its further continuance, unless it speedily receives additional support. * * * * * * We should regard such an event as a public loss, and cannot believe that the intelligent and liberal in our community will permit it to take place.

From the Norwich Courier.

It is an unfavorable omen indeed, for our country, that twelve millions of inhabitants cannot, or rather *will* not, support one periodical devoted to the interests of education — and yet we are vaunting ourselves as the most enlightened nation of the age. The committee in every school district in the state should take a copy *from the commencement.*

From the Episcopal Recorder.

The Annals of Education we feel justified in recommending, as entitled in every respect, to public confidence.

From Zion's Herald.

We have long been accustomed to regard the Annals as an indispensable companion to every teacher. * * * We beg every reader, and especially every teacher, to examine it, and say for himself, as a christian, as a citizen of our republic, whether such a work shall be suffered to perish.

From the Presbyterian.

This work, which has been ably conducted by Mr William C. Woodbridge, at Boston, is apparently upon the eve of being discontinued, for want of general interest in its details. This would be matter of deep regret to the friends of Education, and we notice the fact, in the hope that many of our readers may be awakened to consider the necessity of averting this most undesirable event.

From the Christian Watchman.

Can it be that the "Annals" languishes for want of encouragement, when every voice which has been heard publicly on this subject, has been that of approbation?